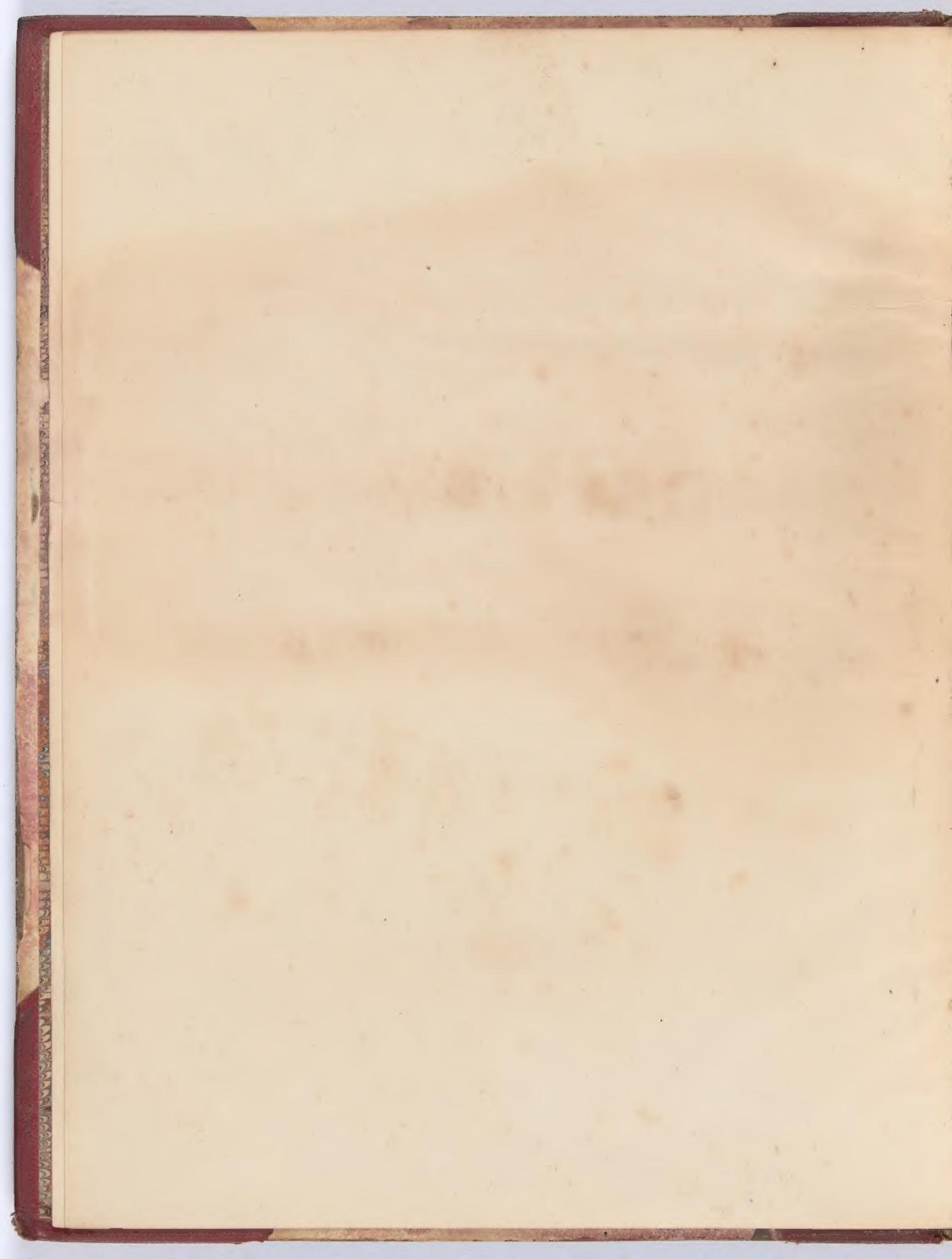




RB 745.4441 HUL-B/C 3-84947 CAI + Flater



# PRINCIPLES

OF

## ORNAMENTAL ART.

BY

## F. EDWARD HULME, F.L.S., F.S.A.

AUTHOR OF "PLANTS, THEIR NATURAL GROWTH AND ORNAMENTAL TREATMENT,"

"FREEHAND ORNAMENT," &c. &c.

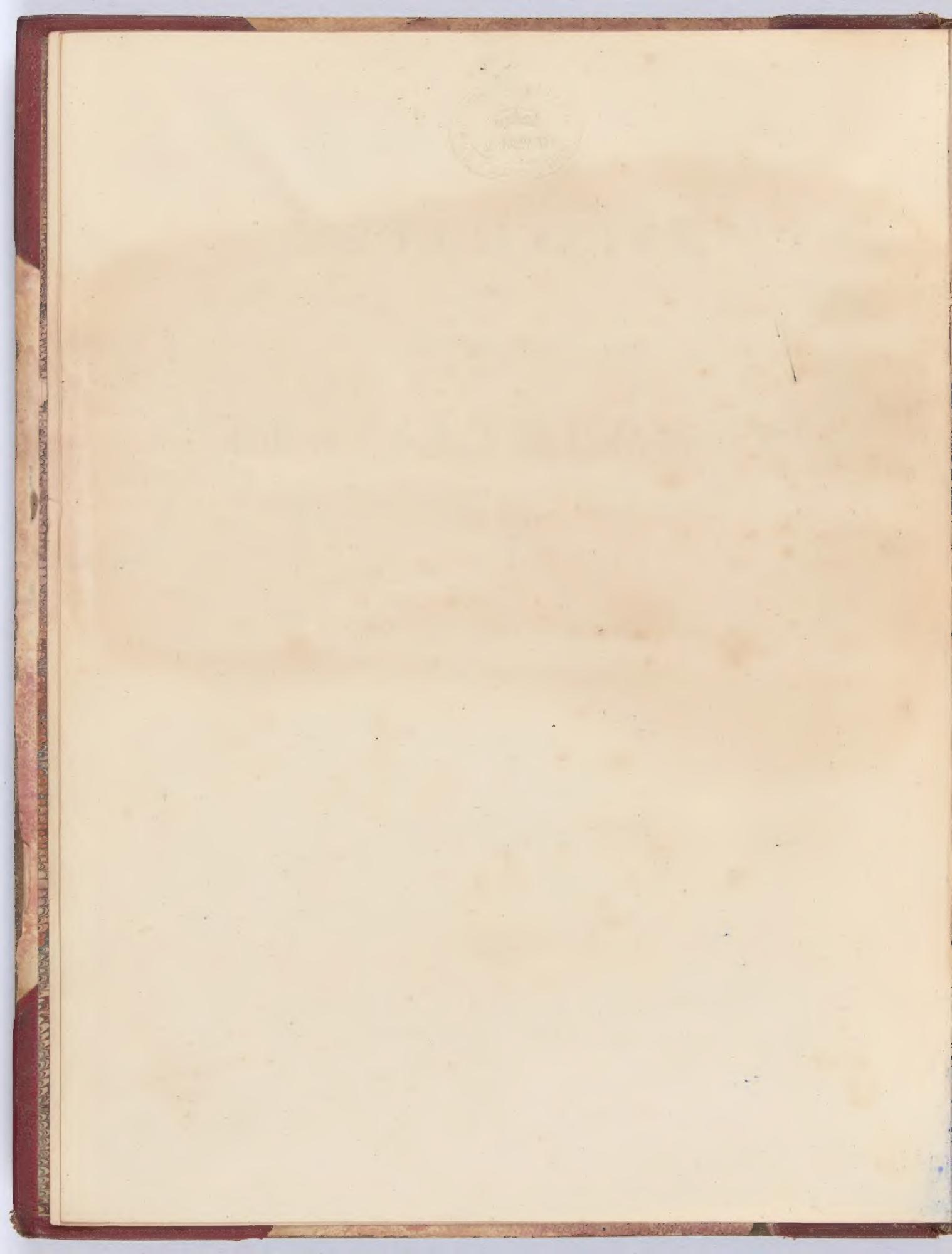
"Content if hence th' unlearn'd their wants may view,

The learn'd reflect on what before they knew."

POPE, Essay on Criticism.

CASSELL PETTER & GALPIN:

LONDON, PARIS & NEW YORK.



### PREFACE.

THE history of the practice of Ornamental Art, the principles that have guided its pursuit, the modifications it has owed external conditions, its 'various ramifications, the subtle influences of race or religion that have affected it, present a theme so vast that no one writer could ever hope to achieve success, no one mind trace a path through such multitudinous avenues of thought, no one hand accomplish even the mechanical task involved in the drawing up of such a series of volumes-a library in themselves-as the subject would demand. The reader, then, glancing at the title we have adopted, may at first seem inclined to doubt its fitness; but we would endeavour to reconcile him to our labours by the prompt confession that we have no hope of achieving more than contributing some few scattered ideas for his consideration, leaving him-our remarks being merely suggestive, by no means exhaustive-to supplement our labours by the consultation of the works of others who have at greater length made the various points, upon which we can only briefly dwell, their especial study, if we should prove so fortunate as to awaken by our remarks the desire to know still more of these matters. While, therefore, it would be impossible to give anything but the briefest summary of the main features of the general subject, a matter that, from the baldness of detail, would be but repellent, it has seemed not undesirable that, avoiding any formal profession of an attempt to write a history of the subject as a whole, we should nevertheless take up some few points—points that will, as we hope, be felt of general interest and utility-and dwell at some little length upon them.

There are many characteristic features that may thus be temporarily isolated for our consideration. We need here mention but a few, as, for instance, the influence of symbolism and religious belief on particular styles of Ornamental Art; the greater or less use of animal or vegetable forms, with its attendant question of the due amount of healthy naturalism or necessary conventionalism to be observed in their representation as elements of decorative design; the history and modifications of the various forms, such as the fret, the anthemion, the patera, and the guilloche, which, though especially characteristic of classic art, crop up more or less recognisably at almost all periods. Another matter, not altogether without interest, we trust, will be found for our consideration in the use of caligraphy and the adornment of written characters, as in many of the Eastern styles, as an element of design. A further suggestive subject will be found in the influence of symmetry, repetition, variation, gradation, and subordination on the work of the designer;

THE STATE OF THE SECTION OF THE STATE OF THE SECTION OF THE SECTIO

while, not to weary our readers while yet on the threshold, we will only in conclusion mention, as a further subject of our regard, the influence that geometrical forms have at all times exercised in decorative art.

A series of papers on Ornamental Art by the Author, which appeared in the pages of the Art Fournal in 1873, form the foundation of the present volume, though in many cases they have been so amplified that the original matter forms but a very small part of the whole. The illustrations have also been largely increased in number, and many of a much richer character have been added, the larger space for illustrations in the present case permitting details of a far more complicated construction. Some of these papers have furnished the subject matter for lectures at the Nottingham, Stoke-upon-Trent, and other Schools of Art, or have been read before the Archæological section of one of our local Natural History Societies. To those to whom, on any of these accounts, our remarks may seem not altogether strange, our more fully-developed labours will, we hope, prove welcome.

While tendering this volume to our fellow-students we would gladly take the opportunity of expressing our own great indebtedness to the labours of others. We have so far as possible been careful to acknowledge this wherever we have quoted from any other writer, but it has very possibly in some cases been involuntarily omitted, seeing that the materials from whence these pages are derived have been gathering for some years, and any omission of the source from whence the note was derived may now pass unnoticed, or regretfully be felt to be a thing now impossible to be supplied, owing to the lapse of time since the original memorandum was made. We are not aware that any such passages exist, but if they do we trust that those whose labours have thus assisted us in our own will hold us guiltless of any wilful holding back of the acknowledgment that is so justly their due.

The works of Sir Digby Wyatt, Mrs. Twining, Heideloff, Viollet-le-Duc, Owen Jones, Wornum, Ruskin, and Layard are too well known, too highly valued, to need here any eulogium of ours. To these, however, as great text-books of the subject, it is but right that we should more especially acknowledge our indebtedness, not merely for the loan of any quotations that may from time to time appear in our own pages, but from their sterling value, which, in our desire to render our work as distinctly utilitarian as possible, we feel not merely justified but almost compelled to notice for the benefit of others who may be seeking like help in their studies.

## CONTENTS.

#### CHAPTER I.

PAGE

Influence of Geometry on Ornamental Art-Geometry as a Science-Its Origin -Designs, poor in themselves, aided by Geometry-Good Designs enhanced by Geometric Settings-Universality of Geometric Basis-Inherent Beauty of Geometric Forms-Love of Mankind for Complexity and Mystery Celtic Art—The Book of Kells—Richness of Effect produced by Simple Means— Aptitude of Geometric Forms for Combinations-Counterchange-Sense of Flatness an Essential Quality in Designs for Floor Coverings—Good Examples of this in the Early Italian Churches— Symbolic Geometrical Forms—Great Facility with which Patterns of a Geometric Character can be put together—Apparent Variation of Identical Designs by Colour—Geometric Drawings from Madras School of Art Geometric Kinder-Garten Plaitings-The Simulation of Relief in Geometric Patterns -Geometry in Classic Art-Frets, their Origin and Development-Greek, Chinese, Mexican, Celtic, and Peruvian Examples-Geometry in Mosaic Work-Egyptian Glass-Mosaic-Opus Tesselatum-Opus Figlinum -Opus Græcanicum-Opus Alexandrinum-Tarsiatura-Marqueterie-Buhl Work Geometry in Gothic Art-Window Traceries Shaft Sections-Pierced Window Openings in Hot Climates-Examples of Geometry in Nature-The Equilateral Triangle-The Right-angled Triangle-The Square-The Oblong The Rhombus or Lozenge-The Pentagon, Hexagon, and Octagon -Geometric Character of Kimmeridge Coal-money-The Circle The Semicircle-Trefoil Quatrefoil-The Scale Form-The Waved Line-Vesica-The Guilloche, its Origin and Development-The Spiral Line-Examples of the Spiral Line in Nature-Example of the Spiral Line in Heraldry-Majolica Ware, its Origin and History-The higher the Character of the Design the less 

#### CHAPTER II.

Æsthetic Art-Symbolic Art-Literal meaning of Symbolism-Its Use in Religion and Heraldry-The Mediæval Pictorial Allegories-Susceptibility to Symbolic Teaching in the Early History of a People-Parables-Fables-Proverbs-Symbolism as a Veiling of Truth-Symbolism as an Aid to the Illustration of Truth-Symbolism may be of Action, of Language, of Colour, of Form, and of Number-Symbolic Actions amongst Savage Races-The Rites of the Levitical Priesthood-The Symbolic use of the Fish in Christian Art - The Early Christian Church in the Catacombs of Rome-The Vesica Piscis-The Fish Symbols of the Egyptians-Dagon of the Philistines-The Sphinx, Classic and Egyptian-The Dolphin in Classic and Renaissance Art-The Serpent, Tortoise, Lizard, and Crocodile-Serpent Worship of the Jews, Mexicans, and Egyptians-Insect Forms, the Scarabæns and Butterfly -The Phœnix-The Dragon and Hydra as Symbolic of the Evil Principle-The Dragon in Chinese Art The Ibis-Nisroch of the Assyrians-The Owl-The Cock-The Dove-The Dove Orchid - The Raven-The Magpie-The Peacock-The Pelican in Christian Art-The Pelican in the Old Testament-The Eagle in Roman, Christian, and Heraldic Art-The Robin-The Dog -The Stag in Classic and Christian Art-The Wolf-The Egyptian Apis-The Sacred Bull of Brahma-The Jackal—The Cat—The Hippopotamus—The Pig—The Ass—The Lion as a Symbol in a Good and Evil Sense-The Evangelistic Symbols-The Creatures seen in the Visions of Ezekiel and St. John-Wyckliffe on the Evangelistic Symbols-The Human Form in Gothic Work-The Representation of Historic Events, with an Undercurrent of Symbolic Meaning-Figures of the Jewish and

and it said which was I'mas I . in huch a

PAGE

53

#### CHAPTER III.

Too strained a meaning must not be attached to any Symbolic Form, Colour, or Number Examples from Clement, Cyril, and Durandus, of Forced Inner Meanings—Symbolism of Colour—Gold and Silver— The Arms of Jerusalem—Symbolic Poetry of Spenser—The Rigidity of the Laws Binding the Egyptian Artists—Symbolism of Numbers, Three, Four, Six, Eight, Twelve Seven, the Number of Perfection -Forty, the Biblical Number of Trial or Probation—The Use of Symbolic Numbers amongst the Chinese—The Temples of Heaven and Earth at Pekin—The Yang and Yin Principles—Symbolism derived from Vegetable Forms-Scriptural Use of Plants as Illustrations-The Palm The Coinage of the Jewish Nation—Judea typified by Female Figure beneath Palm Tree—The Vine—A Symbol of the Israelites--Christ the Vine--The Vine in Byzantine Art-Byzantium as the Capital of the Roman Empire—The Chair of St. Maximinian—The Vine in Classic Art—The White Lily—The Snowdrop The Almond The Pomegranate The Passion Flower—The Lotus—Confusion between the Egyptian Lotus and the Indian Water Bean-Symbolic Plants amongst the Assyrians-The Tree of Lfe-The Idolatrous Groves of Israel -The Tooba Tree-The Amaranth The Rose-Classic and Christian Legends-The Rose of Sharon-The Golden Rose-The Rose of Heaven-The Heraldic Use of the Rose, Thistle, and Shamrock—The Tudor Rose—The Broom of the Plantagenets—The Columbine—The Daisy Badges of the Scottish Clans—Fungi—Representations of Earth, Air, Fire, and Water-The Planets, Symbols of the Classic Divinities-Fire Worship Passion Symbols The Cross-The Nimbus-Cause of the Similarity of all the Portraits of Our Lord -The Vesica Form-The Anchor—The Lamp—The Crown or Wreath—Symbols of the Saints . . .

#### CHAPTER IV.

The Use of Letters and Inscriptions in Ornamental Art-Egyptian Hieroglyphic-Assyrian Arrow Head-The Formation of Arbitrary Writing Characters—Mexican Picture Language—The Hebrew Alphabet— Runic Characters—Early Letters all Straight Lined -Cursive Writing—Writing Materials—Palimpsest MSS.—The Labours of Angelo Mai—Palimpsest Brasses—Clay Records—The Rosetta Stone—Greek Boustrephedon Inscriptions—Study of Archæology -Moorish Inscriptions—The Alhambra—Structure of Monograms-Abbreviations in old MSS, a fertile Source of Error-Structure of Ciphers-Barbarous Character of Early Monograms—Ciphers and Monograms from Pottery—The Cross Prefacing Inscriptions-The Cruz-ansata of Thoth-The Tau Form of Cross-The Sacred Monogram—The Vision of Constantine—The I.H.S.—Monograms on Coinage—Inscriptions on Coinage—The Monograms of Artists on their Works—John Thorpe and his Plan—Palace of the Escurial—Merchants' Marks—Branch Letters—Ribbon Letters—Mediæval Inscriptions on Houses— Posy Rings—Inscriptions on Church Bells—Heraldic Mottoes—Use of Inscriptions amongst the Eastern Nations-Inscriptions as an Element in Modern Ornamental Art-General Features of Assyrian Art—Absence of Ornament—The Patera Form in Ornament -The Anthemion Form in Ornament-Absence of Vegetable Forms-The Use of Colour in Assyrian Art -Assyrian Art Zoomorphic—The Tri-lingual Inscriptions of the Persians—The Method Employed for Reading the Cuneiform Character—Sketch of the History of the Ancient Kingdom of Assyria—Discovery of Site of Ninevel—References of Biblical and Classic Writers to the Assyrian Power

#### CHAPTER V.

Heraldry or Blazonry—Derivation of the Word—MSS., Brasses, Seals, and Glass Painting as Sources of Study—Rolls of Arms—Pernicious Character of much of the Modern "Restoration"—Devices of the Heroes of Antiquity—Origin of Heraldry—Coats of Arms—Arms of Edward the Confessor—Armonal

Bearings of David, Samson, Adam, and Eve—Heraldry, an Incitement to Deeds of Heroism Seals on Legal Documents—Canting Heraldry—Heraldic Charges—The Language of Heraldry—Tinctures—Furs—The Varying Terms applied by Old Writers to these in the Arms of Gentlemen, Noblemen, and Sovereigns—Honourable Ordinaries—Early Devices Structural in Character Naval Signal Code—Subordinaries—Forms of the Cross—Common Charges—The Lion and Eagle—The Cockatrice, Dragon, Wyvern, Griffin, Phænix, Triton, Mermaid, Sea Horse, Sea Lion, Harpy, Sphinx, Sagittarius, Salamander, and Unicorn—Legends of the Basilisk—Marshalling—Dimidiation—Impalement Quartering—Agroupment of Arms—The Shields of War and Peace—Crests—Family Badges—The Motto—The Supporters—The Lilies of France on the English Arms—Marks of Cadency—Marks of Augmentation—Marks of Abatement—Mantling—Value of a Knowledge of the Laws of Heraldry

7.1

#### CHAPTER VI.

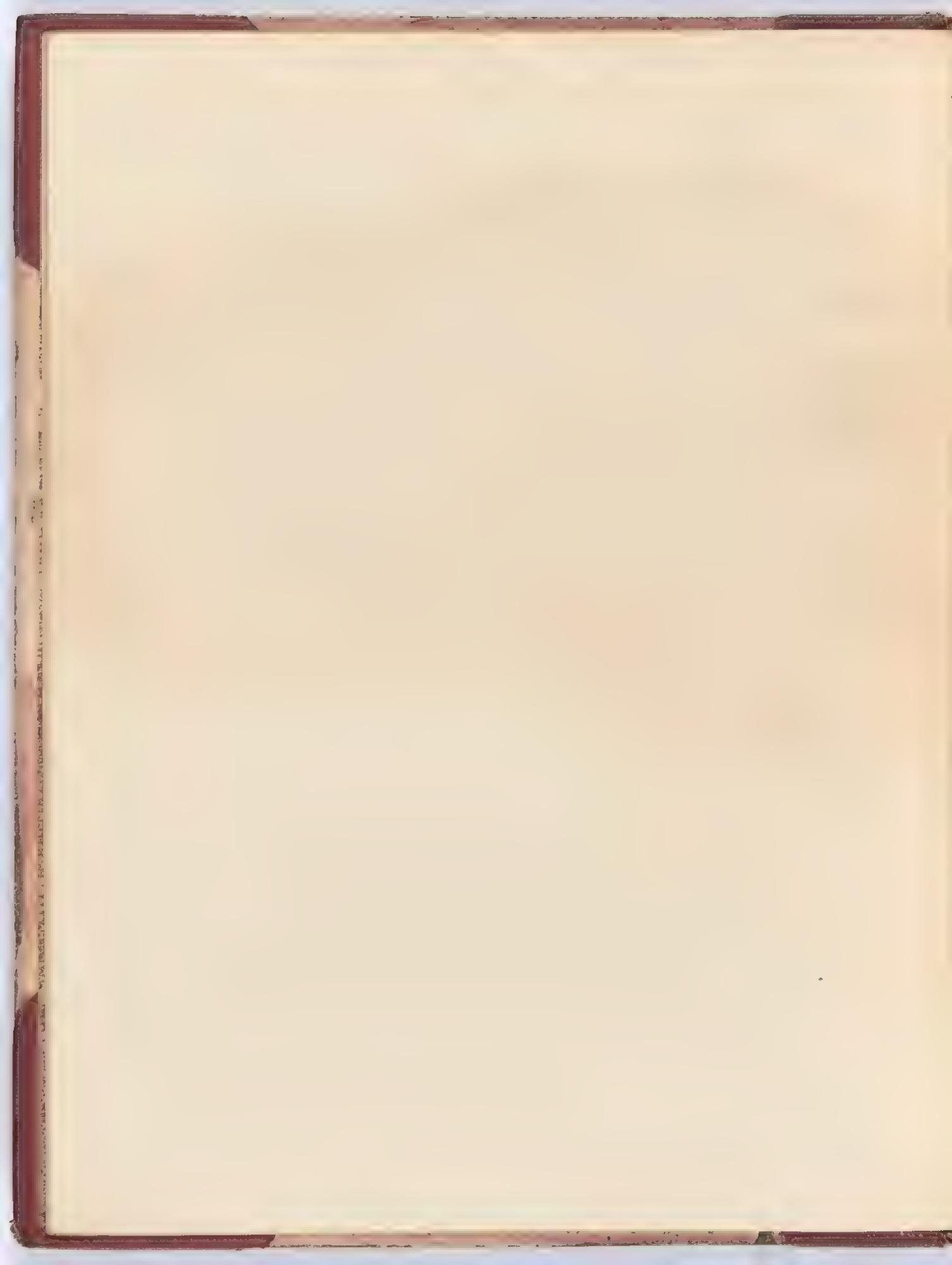
Certain Forms Characteristic of certain Styles-The Horizontal Line in Ornament-Classic Examples of it-Ornament Based on Construction-The Horizontal Line in Weaving and Pottery Sketch of the Potter's Art-Symmetry, its Meaning and Scope-Bi-Symmetry-Multi-Symmetry Symmetry in Natural Objects-The Kaleidescope-The "Last Supper" of Da Vinci-Repetition as an Ornamental Principle—Alternation—Radiation—Interchange—Counterchange—Variation—The Influence of Machinery on Art Productions-Styles of Ornament: What are they?-The Blending and Transition of Art Styles English Art Descended from Egyptian-Military Conquest as Affecting the Arts-The Proto-Doric-Monolithic Monuments-The Modification of Classic Types in Byzantine Art-How far Art Rules may be considered Binding Sir Joshua Reynolds on Laws in Art—Conflicting Opinions of Authorities—The Use of Architectural Forms as an Element of Ornament Representations of Armour, Musical Instruments, &c., as Features of Decorative Art-Imitations of Drapery-Colour in Ornamental Art-The Primary, Secondary, and Tertiary Colours-Transparent and Opaque Colouring -Effect of a Compound Colour producible by the Juxtaposition of its Elements-Advancing and Retiring Colours—Harmony of Colour by Analogy—Harmony of Tone—Difference between Tones and Lines, Tints and Shades The Naturalistic Colour Argument—The Influence of Colours on each other-The Influence of Sunlight and Artificial Light on the Appearance of Colours-Colour Blindness, or Daltonism . 

83

#### CHAPTER VII.

Naturalism and Conventionalism—Old Work not necessarily Good Work—Egyptian Art Based on Natural Forms of Egypt—The Acanthus—Conventional Character of Eastern Art—Moorish and Persian Art—The Fountain of Lions, Alhambra—Chinese and Japanese Art Ruskin on Naturalism and Conventionalism—Opinions of Worman, Hudson, Wilkinson, and others—Sir Joshua Reynolds on Imitation of Nature in Art—Chinese Pottery often a Fac-simile of some Natural Fruit Form—The Principle of Fitness—The Distinction between the words Designer and Decorator—Horseshoe Breast Pins—The Demand for Novelty—Improvement in Design since 1851—Ornament Subordinate to Utility—Venetian Glass—Fitness of Ornament to Material Employed—Earthenware Baskets and Straw Hats—Fitness of Ornament to its Scale and Position—Natural Instances of Fitness: the Pine, Dodder, Ivy, Water Buttercup, &c.—The Tiger, Pengum, Apteryx, Humming Birds, and Swift—The Principle of Contrast—Contrast of Texture, Surface, Form, or Colour—The Value of Analysis of Ornamental Forms—Simplicity or Complexity of Treatment—Complexity often a Sign of Decay—The Doric Order—Natural Examples of Simplicity and Complexity of Form The Interlacing of Lines—Strap Work—Cord interlacing—Old Irish Crosses and MSS.—Early Italian Art—Heraldic Knots—Intersection—Interpenetration.

107



### LIST OF ILLUSTRATIONS.

----

1 Geometric Mosaic, Byzantine.

2. Original Designs Suggested by the Leading Lines

3. of Fig. 6.

4. Florentine Marble Inlay, from the Duomo.

Inlay, Ivory and Ebony. South Kensington Museum.

6. Italian Inlay, Lid of Box. South Kensington Museum.

7. Example of Unit and Ground, each of pleasing Form.

8. Scale Pattern, from Majolica Ware.

9. Mosaic Pavement found at Pompeii.

to. Scale Pattern, from Majolica Ware.

11. Plaited Reed Pattern, from New Zealand.

12. Mosaic Pavement found at Pompeii.

13. Platted Reed Pattern, from New Zealand.

14. Counterchange, Moresque Example.

15. Inlay, Ivory and Ebony. South Kensington Mu-

16. Counterchange, Modification of Fig. 14.

17. Counterchange, Moresque Example.

18. Example of Unit and Ground, each of pleasing Form.

19. Counterchange, Moresque Example.

20. From Egyptian Mummy-wrapping. British Museum.

21. Italian Example of Counterchange.

22. Counterchange, Moresque Example.

23. Semi-quatrefoil, Modification of Scale Form.

24. Right line Ornament, Etruscan. British Museum.

25. Interlacing Bordering, Moresque.

26. Original Design on the Interlacing of Lines.

27. On Cabinet, French Renaissance, c. 1580. South Kensington Museum.

28. Geometric Pattern, Pavement, Byzantine.

29. Norman Fret Bordering.

30. Geometric Design, Byzantine.

31. Window Piercing. Cairo.

32. Counterchange, Moresque Example.

33. Geometric Pattern, Roman Mosaic.

34. Fret on Pottery, New Guinea. British Museum.

35. Counterchange, Moresque Example.

36. Counterchange, Moresque Example.

37. Example of Unit and Ground, each of pleasing Form.

38. Right line Ornament, Etruscan. British Museum.

39. Interlacing Bordering, Moresque.

40. Interlacing, Celtic.

41. Wood Inlay, Spanish, c. 1600, South Kensington Museum.

42. Detached Fret Forms, Chinese.

43. Mexican Frets.

45. Geometric Pattern on flat Dish, Mexican. British Museum.

46. Circular Fret Form, Chinese.

47. Geometric Pattern on flat Dish, Mexican. British Museum.

48. Early Greek Vase. British Museum.

49. Zigzag, Byzantine Stone Carving.

50. Early Greek Vase. British Museum.

51 52. Circular Fret Forms, Chinese.

53.-

54. Rectangular Frets, Chinese.

55-)

56. Fret, Mexican Pottery. Museum of Economic Geology.

57. Rectangular Frets, Chinese.

59. Early Fret, Greek Vase. British Museum.

60. Circular Fret Form, Chinese.

61. Disconnected Fret Forms, Chinese Pottery.

62. Fret, Peruvian Pottery. British Museum.

63. Detached Fret Forms, Chinese Pottery. South Kensington Museum.

64. Greek Fret, Vase. British Museum.

65. Early Greek Vase. British Museum.

66. Ornament from Neck of Vase, Greek. British
Museum.

67. Running Fret, Greek.

68. Early Greek Fret, Vase. British Museum.

69. Running Fret, Greek.

70. Early Greek Vase. British Museum.

71. Zigzag, Early Gothic. Building at Metz.

72. Circular Fret, Japanese. South Kensington Mu-

73. Disconnected Fret, Chinese.

74. German Glass, c. 1476. South Kensington Museum

75. Geometric Design, Saxon Brooch. British Museum.

h

- 76. Fret, Early Peruvian Pottery. British Museum.
- 77. Neck Borderings. Vases in British Museum
- 79. Running Fret, Greek.
- 80. Early Greek Vase. British Museum.
- 81. Running Interlacing Border, Moresque.
- 82. Chinese Bordering on Tile. South Kensington Museum.
- 83. Early Greek Fret, Vase. British Museum.
- 84. Running Fret, Greek.
- 85. Neck Bordering, Early Greek. British Museum.
- 86. Early Greek Fretting of Lines, Vase. British Museum.
- 87. Carving of Geometric Forms, Byzantine.
- 88. "All-over" Fret Pattern, Chinese. South Kensington Museum.
- 89. Geometric Interlacing in Stone, Byzantine.
- 90. Arabic "All-over" Fret Pattern.
- 91. Celtic Zigzag. Kilklispeen Cross.
- 92. Early Italian Mural Decoration.
- 93. Geometric Window-opening. Orvieto.
- 94. Incised Ivory, Byzantine, Eleventh Century. South Kensington Museum.
- 95. Chinese Vase. Museum of Economic Geology.
- 96. Egyptian Mummy-wrapping. British Museum.
- 97. Geometric Tracery, Window opening.
- 98. Carving of Geometric Forms, Byzantine.
- 99. "All-over" Fret Pattern, Chinese Pottery. South Kensington Museum.
- 100. Geometric Interlacing in Stone, Byzantine.
- 101. Arabic "All-over" Fret Pattern.
- Chinese Frets. South Kensington Museum.
- 104. Geometric Wood Carving, Burmese.
- 105. Italian Painted Decoration. Town Hall, Sienna.
- 100. Central Form, "Ball Flower," English; Outer Forms French, "Roundels."
- 107. Ornament on Majolica Drug-bottle. South Kensington Museum.
- 108. Chequering, Greek Pottery. British Museum
- 109. Tile Pavement, Modern.
- 110. Geometric Treatment, Majolica. South Kensington Museum.
- 111. Wood Inlay on Furniture. South Kensington Museum.
- 112 Original Design to illustrate use of the Semicircle.
- 113. Tile Bordering to Pavement, Modern.
- 114. On Roman Pottery found in the New Forest.
  British Museum.
- 115. Speira or Plait Form, Renaissance Example.
- 116. Guilloche Forms, Pottery from Nineveh. British
- 117.) Museum.
- Double Guilloches, Renaissance Examples.

- 120. On Spanish Tile. South Kensington Museum.
- 121. On Roman Pottery found in the New Forest. British Museum
- 122. Wood Inlay, Furniture. South Kensington Museum.
- 123. Wood Carving, Furniture. South Kensington Museum.
- 124. Wood Inlay, Furniture. South Kensington Museum.
- 125. Portion of Cornice, Italian.
- 126. Counterchange Pattern, Persian.
- 127. Painted Ornament, Egyptian. British Museum.
- 128. Portion of Cornice, Italian.
- 129. Original Design to illustrate use of the Semicircle.
- 130. Egyptian Ornament Based on the Square. British Museum.
- 131. Braiding Pattern, Modern Work.
- 132. Chinese Diaper, Pottery. South Kensington Museum.
- 133. Modern Venetian Mosaic. South Kensington Museum.
- 134. Greek Shield on Vase. British Museum.
- 135. Egyptian Saucer, Lotus and Fish. Berlin Museum
- 136. Painted Diaper, Fourteenth Century, French.
- 137. Incised Ivory, Italian Diptych, Thirteenth Century.
  South Kensington Museum.
- 138. Carving, St. Sebald. Nuremburg.
- 139. "Pelican in her Piety," Stained Glass. South Kensington Museum.
- 140. Wood Carving. Mildenhall Church, Wiltshire.
- 141. Braiding Pattern, Modern Work
- 142. Chinese Diaper, Pottery. South Kensington Museum.
- 143. Mosaic. St. Mark's, Venice.
- 144. The Leaf of the Clover.
- 145. Halfpenny of Anne, Pattern Coin.
- 146. Mosaic. St. Mark's, Venice.
- 147. Saxon Inscription, Arundel Marbles, Oxford.
- 148. Saxon Inscription, Kirkdale Church, Yorkshire,
- Egyptian Mummy-wrappings. British Museum.
- 151. Silver Rial of Queen Mary of Scotland.
- 152. Kimmeridge Coal money.
- 153. Jewish Shekel.
- 154. Device on Coin of William II.
- 155. Device on Coin of Stephen.
- 156. Device on Coin of Henry II.
- 157. Obverse and Reverse, Coin of Elizabeth.
- 159. Christian Symbol, Catacombs of Rome.
- 160. Egyptian Mummy-wrapping. British Museum.
- 161. Egyptian Representation of Water British Museum.
- 162. From Tomb of Napoleon I., Paris.
- 163. Kimmeridge Coal-money.

- 164.) Passion Symbols, Mediæval.
- 166. Early Greek Coin.
- 167. Passion Symbols, Mediæval.
- 169. Egyptian Mummy-wrapping. British Museum.
- 170. Early Greek Coin.
- 171. Assyrian Representation of Water. British Museum.
- 172. Sacred Animals of the Egyptians
- 173. Early Christian Fish Symbol.
- 174. From Early Mexican Manuscript.
- 175. Nimbus Forms. National Gallery. 176.)
- 177. Wood Carving. Bishop's Lydiard Church, Somersetshire.
- 178.
- 179. The Serpent, Mexican MSS.
- т8а. 181.
- 182. The Hippopotamus of Typho. Museum of Economic Geology.
- 183. Milanese, Marble Inlay, Dolphin and Trident of Neptune.
- 184. Symbol of the Trinity in Unity, Old Stained
- 185. German Church Embroidery. South Kensington Museum.
- 186. Symbols of the Triune Deity.
- 188. The Serpent, Egyptian Papyrus. British Museum.
- 189. Greek Chimera or Griffin.
- 190. The Lotus, Egyptian Wall Painting.
- 191. Glass Quarry, Ockham Church, Surrey.
- 192. Tudor Rose. Worcester Cathedral.
- 193. Dagon, the Assyrian Sculptures. British Museum.
- 194. Grotesque Figure, English Decorated Period of Gothic.
- 195. Portion of Egyptian Altar. British Museum.
- 196. Portion of Incised Ornament, Egyptian Tablet. British Museum.
- 197. From Egyptian Papyrus. British Museum.
- 198. Egyptian, Serpent-worship.
- 199. Heraldic Eagle, Swiss Glass. South Kensington Museum.
- 200. Foliated Dolphin Panel, Renaissance. South Kensington Museum.
- 201. Nisroch, the Assyrian Sculptures. British Museum.
- 202. Branch Letter, Illuminated MS. British Museum.
- 203. Greek Inscription on Pedestal of Statue. Vatican.
- 204. Egyptian Representation of Rehoboam, King of Judah.
- 205. Mark on Sévres Pottery, Reign of Louis Philippe.
- 206. Illustration of the Character of Chinese Writing.
- 207. Mediæval "Merchants' Marks."

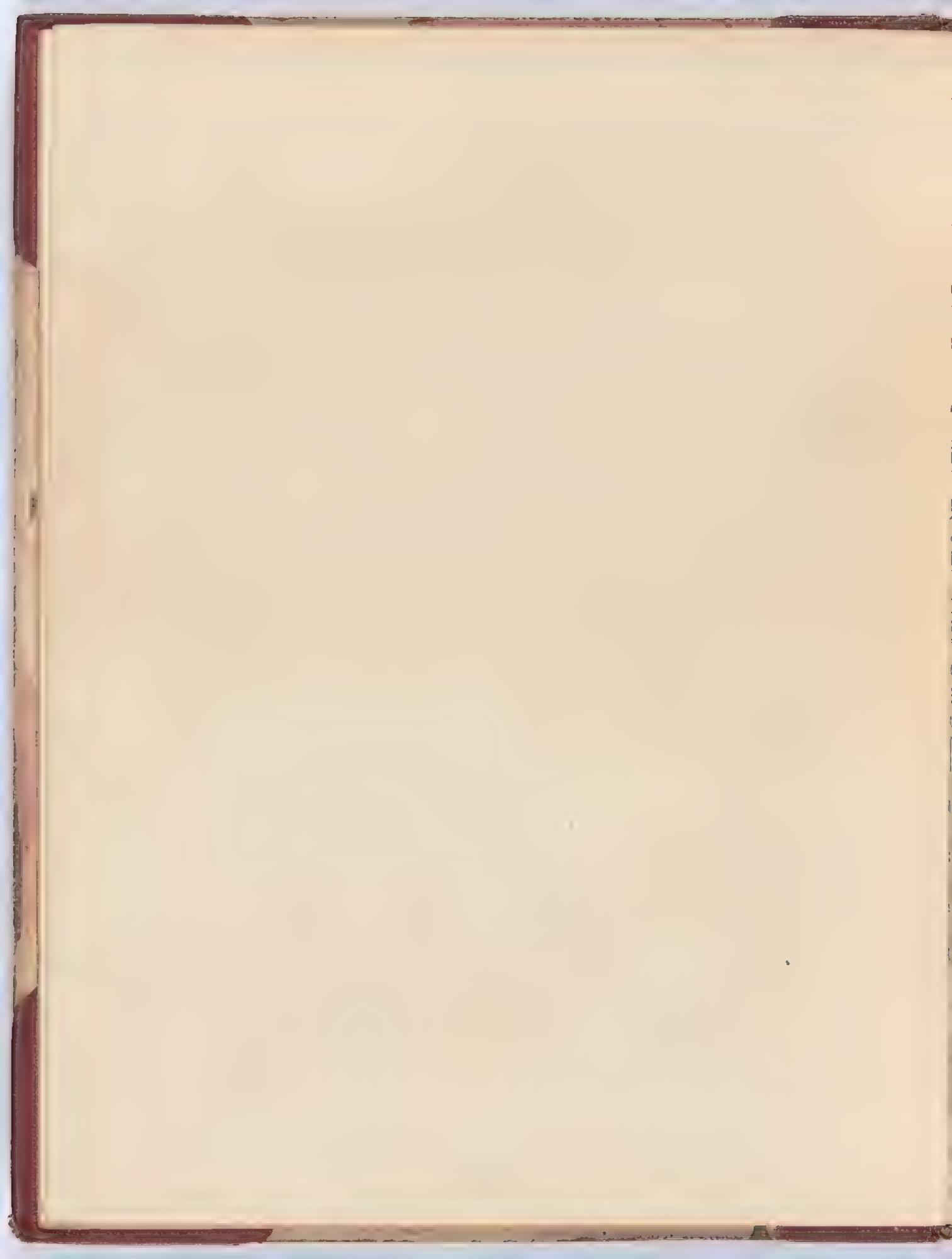
- Name and Title of Amunothph II.
- 209. Original Design to illustrate nature of a Monogram.
- 210. Assyrian Monarch and Inscription. British Museum
- 211. Original Design to illustrate nature of a Monogram.
- 212. Ribbon Letter, Illuminated MS. British Museum.
- 213. Illustration of the Character of Arabic Writing.
- 214. Cipher from Henri Deux Ware. South Kensington Museum.
- 215. Monograms from Early English Charters. British
- Museum. 216.
- 217. Monogram from Coin of William and Mary.
- 218. Illustration of the Cufic Character.
- 219. Monogram used by Albert Durer.
- 220. Design for Plan of the House of John Thorp
- 222. Monogram on Papal Bull. British Museum.
- 223. Monogram, Maria Regina, Scottish Coin.
- 224. Coin, Francis and Mary of Scotland.
- 225. Greek Boustrophedon Inscription.
- 226. Device of Moneyer on Saxon Coin.
- 227. Illustration of the Assyrian Cuneiform Writing.
- 228. Device on Coin of Charles II.
- 229.
- Ornamental Arrangements of the Letters F.E.H. 230.
- 235 ..
- 231. Ornamental Design to illustrate nature of Cipher.
- 232. Rude Form of Pottery, Assyrian.
- 233. Monogram of Louis Philippe on China.
- 234. Assyrian Painted Decoration. British Museum.
- 236. "Merchants' Mark" on Mediæval Ring.
- 237. Rude Form of Pottery, Early British.
- 238. Cipher of Louis XVI. on China.
- 239. Assyrian Painted Decoration. British Museum.
- 240. Floral Form, Assyrian Slabs. British Museum.
- 241. Border to Painted Brick, Assyrian. British Museum.
- 242. Anthemion, Assyrian Tile. British Museum.
- 243. Patera on Bracelet of King, Assyrian. British Museum.
- 244. Border to Painted Brick, Assyrian. British Museum.
- 245. Portion of Assyrian Pavement. British Museum.
- 246. Natural Growth of the Comfrey (Symphytum officinale).
- 247. Scroll Form, Ancient Peruvian Pottery. British Museum.
- 248. Indian Inlay Work from Agra. South Kensington
- 249. Charge known Heraldically as the "Gurge" or Whirlpool.
- 250. Scroll Form, Greek Vase. British Museum.
- 251. Shell of the Common Planorbis.
- 252. Fossil Scorpoid Form. Ammonite.
- 253. Embroidery, Early English or Thirteenth Century.
- 254 Ornament at Base of Handle, Greek Vase. British Museum.

- 255. Bordering to Tile, Chertsey Abbey. South Kensington Museum.
- 256. Plan View, Natural Flower, the Herb-Robert.
- 257. Pavement from Kyonjik, Assyria, British Museum.
- 3. Carving, from old Cabinet in private Possession.
- 259. Floral Diaper, Chinese Vase. South Kensington Museum
- 260. Bordering of Roman Mosaic.
- 261. Patera Form, Indian Embroidery. 1851 Exhibition.
- 262. Original Designs to illustrate nature of Patera.
- 264. From Tiles, Chertsey Abbey. South Kensington
- 264,\*) Museum.
- 265. Small Pateræ, Chertsey Tiles. South Kensington
- Museum.
- 266. Example from Coburg Castle, Fourteenth Century.
- 267. Pateræ, from Greek Pottery. British Museum.
- 269. Rosette Form, from Romanesque Iron-work.
- 270. Rosette. Henry VII.'s Chapel, Westminster.
- 272. Example from Abbey Church of Vézelay, France, Twelfth Century.
- 273.
- 274. Panels, Elizabethan,
- 275.
- 276
- 277. Bivalve Form of Shell.
- 278. Florentine Stone Carving. South Kensington Museum,
- 279. Hinge on Bookbinding, Holbein. British Museum.
- 280. Indian Embroidery.
- 281. Byzantine Stone Carving.
- 282. Elizabethan Wood Carving.
- 283. Foliate Border, Greek Vase. British Museum.
- 284 The Wood-tiger Moth.
- 285. The Lime-hawk Moth
- 286. Example of the Principle of Repetition.
- 287. Repetition modified by Alternation of Colour.
- 288. Celtic Z Pattern.
- 289. Original Design to illustrate Nature of Diaper.
- 290. Diaper, Sévres Porcelain. South Kensington Mu-
- 201. Diaper, Chelsea China. South Kensington Mu-
- 292. Design on Drapery, Picture by Crivelli. National Gallery.
- 293. Original Design to illustrate Bi-symmetry.
- 294.7 Chinese Diapers, Pottery. South Kensington Mu-
- 296. Geometric Panels, Early English Glass.
- 297. Design on Drapery, Picture by Crivelli. National Gallery.
- 298. Geometric Panel, Early English Glass.
- 299. Border on Greek Vase. British Museum.

- 300. Embroidery, Indian. 1862 Exhibition.
- 301. Border on Greek Vase. British Museum.
- 302. Original Design for Flooring-tile.
- 303. Indian, Enamelling on Metal. 1862 Exhibition.
- 304. Geometric Patterns, Polynesia.
- 306. String-course, Byzantine.
- 307. Original Design to illustrate Principle of Alternation.
- 308. Running Bordering, Greek Pottery. British Museum.
- 309. Hispano Moorish Pottery. South Kensington Museum.
- 310. Foliated Bordering, Greek Vase. British Museum.
- 311. Wood Carving, Late Gothic or Perpendicular.
- 312. Indian Embroidery.
- 313. Carving from Saitron, Rajpootana. South Kensington Museum,
- 314. Floral Bordering, Greek Vase. British Museum.
- 315. Original Design to illustrate Principle of Alternation.
- 316. Indian Border, Embroidery.
- 317 ) 318. ) Elizabethan Wood Carving.
- 319. Design Based on Fleur-de-Lis, to illustrate Bisymmetry.
- 320. Gothic Stone Diaper. Beverley Minster.
- 321. Original Design to illustrate Principle of Repetition.
- 322. Ornamental Form from Old Mexican MS.
- 323. Indian Embroidery Work.
- 324.) Original Designs to illustrate Principle of Bi-
- symmetry. 325.)
- 326. Gothic Diaper.
- 327. Carving from Saitron, Rajpootana. South Kensington Museum.
- 328. The Cactus. Old Mexican MS.
- 329. Embroidery on Indian Saddle-cloth. South Kensington Museum.
- 330. Foliate Border, Greek Vase. British Museum.
- 331. Indian, Enamelling on Metal. 1851 Exhibition.
- 332. Norman. Mildenhall Church, Wiltshire.
- 333. Pierced Stone Screen. Ahmedabad, Gujerat.
- 334. From Florentine Fountain, c. 1490, South Kensington Museum
- 335. Norman. Mildenhall Church, Wiltshire.
- 336. From Florentine Fountain, c. 1490, South Kensington Museum.
- 337. Natural Growth; Foliage of the Larger Scabious.
- 338. Wood Carving, Perpendicular. Mıldenhall Church, Wiltshire.
- 339. Norman. Birkin Church, Yorkshire.
- 340. Ivory Carving, Byzantine Casket. South Kensington Museum.
- 341. Early Italian Surface Decoration.
- 342. Ivory Carving, Byzantine Casket. South Kensington Museum,

- 343. Natural Growth; Foliage of the Vine.
- 344. Roman Marble Mosaic.
- 345. Ornament painted on African Drinking-vessel.
- 346. String course, French Romanesque.
- 347.) Stone Carving, Italian Renaissance. South Ken-
- 348. sington Museum.
- 349.7
- 350. Natural Growth of the Honeysuckle.
- 351
- Greek Honeysuckle Ornaments, Vases.
- Museum.
- 355. Mediæval Embroidery, English, Temp. Elizabeth.
- 356. Natural Growth of the Violet.
- 357.)
- 358. Conventional Rosette Form, Gothic, French.
- 359. Blackberry, Early French. Nôtre Dame, Paris.
- 360. Early English Conventional Foliage.
- 361. Early French. Cathedral of Amiens.
- 362. Anthemion stamped in Silver on Base of Hindu Idol.
- 363. Design to illustrate Character of Metal-work Designs.
- 364. Original Design based on the Nut Plant.
- 365. Anthemion Form, Spanish Embroidery. South Kensington Museum.
- 366. Anthemion Form, French Renaissance. South Kensington Museum.
- 367. Original Design based on the Violet Leaf, Fig. 356.
- 368. Natural Growth of the Nut Plant.
- 369. Ivory Carving, Byzantine Carving. South Kensington Museum.
- 370. Original Design based on the Leaf of Convolvulus.
- 371. Norman. Mildenhall Church, Wiltshire.
- 372. Original Design based on the Convolvulus Plant.
- 373. Carving on Weapon, Swan River. British Museum.
- 374. Early French Gothic.
- 375. Spandril. Hawton Church, Nottinghamshire.
- 376. Diaper, Modern Wall paper.
- 377. Chinese Pottery. South Kensington Museum.
- 378. Original Design based on the Ivy Plant.
- 379. Wood Carving, French, 1560. South Kensington Muset m
- 380. Chinese, Nankin Porcelain. South Kensington Museum.
- 381. Indian Running Border. 1862 Exhibition.
- 382. Ivory Carving, Thirteenth Century Chessman. British Museum.
- 383. Rhenish Glass, c. 1550, South Kensington Museum.
- 384. Metal Work, Elizabethan.
- 385. Heraldic Glass, Swiss. South Kensington Museum.
- 386. Stone Carving, Italian Renaissance. South Kensington Museum.
- 387. Gothic Spandril. Tomb in Hereford Cathedral.

- Early Fourteenth Century Gothic, French.
- 390. Diaper on Heraldic Glass, English, Fifteenth Century. South Kensington Museum.
- 301. Marble Inlay, Milanese. South Kensington Museum.
- 392. Capital, Decorated Gothic. Southwell Minster, Nottinghamshire.
- 393. Moorish, Palace of the Alhambra.
- 394. Bordering, Greek Vase. British Museum.
- 395. Early English Tile. British Museum.
- 396. Bordering, Greek Vase. British Museum.
- 397. From Doorway of Chapter House, Rochester Cathedral.
- 398. Bordering, Greek Vase. British Museum.
- 399. Metal Work, German. St. Mary, Rottweil, Black Forest.
- 400. Heraldic Glass, Swiss. South Kensington Museum.
- 401. Mediæval Bookbinding. British Museum.
- 402. Persian. On a Plate in South Kensington Museum.
- 403. Original Design based on the Cross Form, Pave-
- 404. Wood Carving, Perpendicular. Balliol College, Oxford.
- 405. Modern Italian Wood Carving.
- 406. Embroidery, Tunisian.
- 407. Surface Decoration, Japanese. South Kensington Museum.
- 408. Border of Majolica Dish. South Kensington Museum
- 409. Moulding, Norman. St. Ethelred, Norwich.
- 410. Boss, Early English Gothic.
- 411. Natural Seaweed Forms.
- 412. Norman, Conventional Foliage.
- 413. Running Border, Greek Vase. British Museum.
- 414.} Stem Sections of Water Plants.
- 415. The Scarce Swallow-tail Butterfly.
- 417. Running Border, Greek Vase. British Museum.
- 418. Interlacing Pattern, Modern Carpeting.
- 419. Gothic Metal-work Crocket.
- 420. Gothic Stone Carving, German.
- 421. Early Form of Acanthus Capital. Temple of the Winds.
- 422. Drinking Cup, Ancient Egyptian. British Museum.
- 423. Interlacing Pattern, Stone Carving, Byzantine.
- 424. Interlacing Designs, from Celtic Monuments.
- 425. Nature and Construction of the Semicircular Arch.
- 426. Interlacing, Celtic.
- 427. Interlacing, Early Italian.
- 428. Interlacing, Byzantine.
- 429. Late German Gothic.
- 430. Interlacing of Dotted Lines, Celtic MS.
- 431. Embroidery in Gold on Velvet, Tunisian.



## PRINCIPLES OF ORNAMENTAL ART.

#### CHAPTER I.

Influence of Geometry on Ornamental Art—Geometry as a Science—Its Origin—Designs, poor in themselves, aided by Geometry—Good Designs enhanced by Geometric Settings-Universality of Geometric Basis-Inherent Beauty of Geometric Forms-Love of Mankind for Complexity and Mystery—Celtic Art—The Book of Kells—Richness of Effect produced by Simple Means— Aptitude of Geometric Forms for Combinations—Counterchange—Sense of Flatness an Essential Quality in Designs for Floor Coverings—Good Examples of this in the Early Italian Churches—Symbolic Geometrical Forms—Great Facility with which Patterns of a Geometric Character can be put together—Apparent Variation of Identical Designs by Colour—Geometric Drawings from Madras School of Art-Geometric Kinder-Garten Plaitings-The Simulation of Relief in Geometric Patterns-Geometry in Classic Art-Frets, their Origin and Development-Greek, Chinese, Mexican, Celtic, and Peruvian Examples-Geometry in Mosaic Work-Egyptian Glass-Mosaic-Opus Tessellatum-Opus Figlinum-Opus Gracanicum-Opus Alexandrınum-Tarsiatura-Marqueterie—Buhl Work—Geometry in Gothic Art - Window Traceries Shaft Sections—Pierced Window Openings in hot Climates—Examples of Geometry in Nature—The Equilateral Triangle—The Right-angled Triangle—The Square—The Oblong— The Rhombus or Lozenge-The Pentagon, Hexagon, and Octagon Geometric Character of Kimmeridge Coal money-The Circle—The Semicircle—Trefoil—Quatrefoil—The Scale Form—The Waved Line—Vesica—The Guilloche, its Origin and Development—The Spiral Line—Examples of the Spiral Line in Nature—Example of the Spiral Line in Heraldry— Majolica Ware, its Origin and History-The Higher the Character of the Design the less should the merely Mechanical Geometric Basis be Obtrusive.

THE influence of geometric forms upon design has, in almost all periods of art, been very marked; in some styles, as in those of the thirteenth century known as the Early English and Early Italian, much more so than in others, but in no period of art has it been altogether ignored.

Geometry, as a science, was one of the earliest studies of mankind; its origin cannot now be determined, though it is legendarily associated with the ancient Egyptians. The annual overflow of the Nile waters caused, by the destructions of land-marks, such frequent disputations as to rights of property, that it became essential to devise some means by which boundaries could be ascertained and recorded, and, if need be, restored in case of accident; hence, we are told, the origin of geometry, the word, in its derivation Greek, literally meaning earth-measurement. The study, however, has no doubt, like many others, been the result of gradual but slow growth, many minds adding stores of fresh knowledge, many centuries still finding it a progressive science.

In the British Museum our readers may see, among the papyrus scrolls, one containing a treatise on Geometry and Arithmetic, "written," according to the label affixed to the inclosing frame, "in the twenty-third year of the King Ra-aa-usr, by the scribe Aahmet, from an earlier work." We are unable to give definitely the date of this treatise; but we mention it here as an illustration that among this ancient people the science was duly cultivated in its theoretical or demonstrative form, no less than the architectural remains prove the possession of a knowledge of it practically and constructively. Diodorus, in his writings, says, "The children

of the priests are taught two different kinds of writings—what is called the sacred, and that that is more generally in use. They pay, too, a great attention to arithmetic and geometry, for their river, changing the appearance of the country very considerably each year, gives rise to many and serious discussions among neighbouring landowners about the extent of their property; and it would be difficult for any to decide upon their claims without proof founded upon geometry." Besides Diodorus, we find that Plato, Herodotus, Clemens, Strabo, and several other early writers, ascribe the rise of geometrical science to the same nation, and from the same cause,

The Greeks, who borrowed very largely in many ways from the older experience and wisdom of Egypt, made great advances in geometrical knowledge; Thales (600 B.C.) and Pythagoras (540 B.C.) being, perhaps, the greatest masters of the science in the early national history; while, later on, the labours of Euclid and his disciples, in the school of Alexandria, still further advanced the knowledge of the subject. The Romans made little progress in mathematical knowledge, being content in a very large measure to avail themselves of the learning of the more polished Greeks. The practical study of applied geometry was, perhaps, never so thoroughly wrought out as among the Moors, their ornament being full of the most elaborate combinations, though in the theoretical and scientific phases of the subject they made but little progress; nor do we find the mathematical study of geometry making any advances among the early peoples, as the Assyrians, Jews, or Chinese.

We have, however, now to consider the practical outcome of this mathematical knowledge handed down to us; and throughout the rest of our remarks on it must consider geometry, not from its scientific, but from its artistic side—not the value of its study as a mental exercise, but the charm it is able to afford the eye, and through it the mind, as an element in art-work.

One of our authorities on matters connected with design has laid down as a law that all ornament should be based on a geometric construction; and though at first enunciation of the proposition we feel inclined to doubt whether all ornament should be thus bound by so rigid a law, we shall, nevertheless, on consideration and investigation, be prepared to admit the charm that a geometric basis is able to impart to an even otherwise poor design, and the enhanced beauty that it gives in all cases, though the more noble the ornament the less will the geometric basis, though still valuable, be obtrusive.

Our illustrations will supply very numerous examples of the truth of the foregoing remarks. It will suffice if we indicate a few of these. Of the designs that owe their entire value to geometry, being wholly and entirely geometrical alike in setting out and detail, Fig. 1, an ingenious combination of hexagons, squares, and equilateral triangles; Figs. 7 and 14; Figs. 16 and 17, very good examples of a large class of Moorish forms, where the ground and pattern are identical in form; Fig. 31, an elaborate Eastern strap-work design; Figs. 88 and 99, very common but ingenious Chinese patterns, entirely formed of the combination of two series of straight lines at right angles with each other; and Fig. 257 the design of a pavement from Kyonjih, formed entirely of curved lines, are very good examples. Figs. 45 and 47, the central designs of some Mexican saucer-like vessels in the British Museum; Fig. 295, a Chinese diaper; and Fig. 309, the bordering of a piece of Hispano-Moorish pottery in the South Kensington Museum, may fairly, we think, be called poor designs that owe any beauty they may possess to the geometric lines on which they are arranged. Designs, good in themselves but materially enhanced by their geometric settings, are seen in Fig. 74, a piece of German glass, dating about 1470 A.D., and preserved

in the South Kensington Museum; Fig. 135, an Egyptian combination of water-symbols; Fig. 144, a treatment of the clover-leaf; Fig. 155, a cruciform arrangement forming the central part of one of the coins of Stephen; Fig. 209, a monogram within a quatrefoil; Fig. 245, a portion of a very richly designed pavement from an old Assyrian palace, and Fig. 326 a fragment of a mediæval diaper. Of designs of a higher and richer character where the geometry is present and adds its due share of value, though not so evidently as in the preceding cases, the following may be considered as fairly representative examples:— Fig. 200, a piece of carving in the South Kensington Museum, a design of a free and bold character assisted and enforced by the rigid parallelogram within which it is inclosed; Fig. 280, a piece of Indian embroidery, its beauty enhanced, like that of the preceding example, by the contrast of its flowing curves with the stern simplicity of the lines of the inclosing form; Fig. 316, another piece of Indian work, and Fig. 387, a very pleasing example of mediæval stone-carving, the original of which is on a tomb in Hereford Cathedral. It does not seem worth while to dwell at any greater length on these special illustrations, or to bring forward any others, as our readers will, we trust, see from these few examples the bearing of our comments, and will be able themselves to supplement these instances by many others that may be found scattered throughout our illustrations.

The examples we have brought forward will be found to cover a very large field of art, since amongst them will be found the rude pottery of Mexico, the quaint and bizarre treatment of the Chinese, the dignified simplicity of Assyrian art, the rich beauty of Indian workmanship, and the more familiar forms produced in mediæval times by our fellow-countrymen; and it is very curious and interesting to notice in them all the universal adhesion to the principle of the introduction of a geometric basis in the design. Whether we study the examples now in course of production among us, the result of English brain, and strength, and skill, assisted by the thousands of avenues of knowledge and study now open to the designer, or the remains of Egyptian and Assyrian ornament, the brain-work and handiwork of men who toiled and thought some thousands of years before the Christian era, or whether we contrast the delicacy and refinement of the best French, German, or English art with the rude carvings or pottery of the Sandwich Islander or the New Zealander, we cannot fail to notice that, amidst much that is very marked and distinctive in comparing chronologically one period with another, or geographically the handiwork of one race or nation with another, this one great principle—the application of geometry to ornament—stands prominently forward in them all. Among so mixed a multitude of men, differing in nationality, religion, and almost all else, this unity in their work must doubtless have been the result of considerable diversity of motive, and we shall now endeavour to search out some few of the controlling causes of this marked unanimity in the result that may have been in the minds of these designers.

One powerful motive no doubt for the introduction of geometrical forms may be found in the inherent beauty of many of them, such, for instance, as the lozenge, the hexagon, or the six-pointed star formed from it. Fig. 5 is a good example of the latter form; it is taken from a cabinet of inlaid work in ebony and ivory in the permanent collection of the South Kensington Museum. We have, for the sake of greater clearness in our drawing, made the larger mass, the stellate form, dark, keeping the triplet of lozenges light; in the original the reverse is seen, the stellate forms being in ivory, the diamonds in ebony. Fig. 23, a design from Santa Anastasia, Verona, based on semi-quatrefoils; Figs. 123, 125, and 128, simple mouldings from Italian buildings, made up of a continuous series of circles,

equilateral triangles, and squares respectively; the various forms of the guilloche, as in Figs. 117, 118, and 119, based on circles; Fig. 241, a simple line of squares alternating in colour; Fig. 250, a Greek example, based, as is so commonly the case, on the spiral line, and Figs. 296 and 298, taken from the lead-lines in early Gothic glass, may all be considered examples of the introduction of geometric forms from their pleasing character, with no

afterthought or inner meaning.

Another motive has arisen in the universal love of mankind for the marvellous or the mysterious. Hence the great complexity and baffling ingenuity of many involved geometric devices; hence, too, the great love of elaborate interlacing of bands and lines in Celtic work, many of them of so minute a character that it seems scarcely possible that human eye and hand could have achieved so wonderful a result. Thus Mr. Westwood, one of our great authorities in Celtic art, mentions that in a space a quarter of an inch square (if our readers will draw a square of this size themselves, they will realise the matter the better), he counted in the Book of Kells, one of the most famous and beautiful of these early MSS., by means of a powerful magnifying glass, one hundred and fifty-eight distinct interlacings of a white line on a black ground, all unfailingly correct in their alternately over and under interlacing, the whole faultlessly true in curve, the very perfection in this direction of human work. As examples of this love of intricate geometrio designs the works of the Moors stand pre-eminent; many wonderful illustrations may be seen in Owen Jones' work on the Alhambra. A good deal of the Early Italian Gothic shows a very similar love for this complexity of geometric forms. Fig. 6, though, as we shall hereafter see, faulty in principle, is at least a good example of the richness of effect producible with little trouble, the whole design being worked in triangles of white, green, and black. In Fig. 31, a very characteristic piece of Moorish work from Cairo; in Fig. 56, an intricate example of fret work from a piece of Mexican pottery in the Museum of Economic Geology, London; in Figs. 69, 84, representative types of the richer varieties of Greek frets; in Fig. 99, a very good specimen of a Chinese fret; in Fig. 333, a series of window piercings from the mosque of Dustour Khan at Ahmedabad in Gujerat; and in Figs. 413, 417, examples of geometric interlacing from Byzantine work, we have good and characteristic illustrations of the complexity and richness of character that often become a feature of designs on a geometric basis.

The aptitude of geometric forms for affording good combinations is a further recommendation; thus circles placed with their diameters in contact, as in Fig. 18, leave four-sided intervening spaces bounded by concave curves, pleasing forms in themselves, and contrasting well with the circles. Many geometric forms are thus capable of not only giving pleasure in themselves, but also of producing these satisfactory intervening forms. The design, Fig. 5, from the inlaid cabinet already referred to, is a very good illustration of this development, and we see it again very clearly in Fig. 7, where the eight-pointed star alternates with the cross-like form. Fig. 15, from the same source as Fig. 5, and Fig. 37, a piece of Moorish tile-work, are other examples.

It is often possible to produce great richness of effect by having the ground and the figure identical in form, the design being developed by a variation of colour. As the simplest possible illustration of what we mean we would point to the alternate black and white squares of a chess-board. The use of this simple design, the juxtaposition of similar squares relieved by change of colour, is very ancient; we meet with it on Assyrian pottery, Fig. 241, and on the mummy-wrappings of the ancient Egyptians, Fig. 108. The

simplicity of the form is sometimes somewhat modified by making the forms oblong instead of square, as in Fig. 41, a piece of wood inlay from a Spanish cabinet in the South Kensington Museum; by putting some other form within the alternate squares, as in Figs. 28 and 130. As a still richer modification of this, each square may be thus treated. We see this very well in Fig. 403, where the black squares have within them a grey cross, and the white squares a black one, the result being an amount of richness that conceals at first its near relationship to the simple black and white chequers from whence it sprang. At other times the relationship of the design to the original chequers is still less obvious, owing to each square, as in Fig. 127, an Egyptian example, being divided in half by one of its diagonals, and each resulting triangle being of a different colour. In Fig. 113, an Early Italian design, it will be noticed that every alternate square has both its diagonals drawn, the resulting right-angled triangles being alternately white and black.

Identity of form in the pattern and ground appears to have had an especial charm with the Moors, Arabs, and Hindoos, and it is among them that the richest examples are met with, the mosques of Cairo, the courts of the Alhambra, the bazaars of India, affording many curious and beautiful illustrations. In some cases the process of manufacture tends to suggest this feature in the design, and aids its creation, as in the alternately dark and light parallelograms produced, as in Fig. 11, by weaving; ordinarily, however, it is the result of free choice, unbiassed by any technical influence. Figs. 14, 16, 17, 19, 22, 32, 36, 90, all Moresque in their origin, are excellent examples of this class of form, known as "counterchange." Fig. 23, an Early Italian form; Fig. 111, a piece of marquetry; Fig. 112; Fig. 122, a specimen of inlaid work in ebony and ivory; Fig. 129, composed, like Fig. 112, entirely of semicircles; Fig. 244, a fragment of a painted tile from the Assyrian remains preserved in the British Museum; and Figs 304, 305, rude, yet ingenious designs of the islanders of the Pacific, are all further examples of counterchange arrangements.

Many other illustrations, and those, too, of a much more elaborate nature, might have been chosen, but we have selected those given, that from their comparative simplicity we may the more easily explain the manner in which they are constructed, in order that the designer, having a clue to the principle on which they are formed, may be enabled to create other examples for himself. A square, oblong, rhombus, triangle, or hexagon, being taken, forms that will by juxtaposition of units completely fill a given space, it is enriched by the addition on half its sides of certain forms fixed upon, care being then taken that exactly similar forms are deducted from the remaining sides. In illustrating our remarks by a reference to our figures we may perhaps render our meaning clearer, as, though the idea is simple enough in itself, it is difficult to convey it by description alone. If, then, the student reader will, while referring to Fig. 14, sketch out on a piece of paper some few lines equidistant and at right angles to each other, so as to form a series of squares, he has the basis of the design; if now, bisecting each side of a square and using the point of bisection as the centre, and the distance thence to the angle of the square as a radius, he constructs on each face of the square a semicircle, two of these semicircles being beyond the square, and the remaining and opposite two within it, he will find that he has thus created the unit of the design, the rest of the work being merely a repetition of this. Fig. 16 is formed in exactly the same way, but in this case the radius taken being smaller, a portion of each side of the square enters into the design

and invests it at once with a totally different character. In constructing Fig. 17 the squares are first drawn as before; each side of a square is then divided into three equal parts, and from the two extremities of the central division lines are drawn, one at right angles to the face of the square, and the second intersecting the first at an angle of forty-five degrees; this construction is gone through within the square on two of the sides and external to it on the remaining two, the result being the highly ingenious form of somewhat foliate character seen in our illustration, a piece of Moorish tile-work from the great palace of the Alhambra. Fig. 112 has as its groundwork a series of contiguous equilateral triangles; each side of each triangle is divided into two equal parts. On one of these parts as a diameter, a semicircle external to the triangle is struck, on the remaining part a similar semicircle, but falling within the triangle. It is needless further to multiply illustrations, as these should suffice as a clue to the construction of this class of figures, and it will be very beneficial practice for the reader, after this amount of assistance given, to endeavour to unravel the mystery of the others for himself.

In designs for floor-coverings, whether mosaic, carpeting, tile-work, or whatever the material may be, a sense of flatness is an essential quality; and here again we find a great advantage in the use of geometrical forms, as by their means the feeling of flatness of surface is easily obtainable, and yet in combination with this at the same time almost any degree of complexity and richness of effect. The Early Italian churches afford us numerous excellent examples of the true use and beauty of geometric forms employed as flooring, or as surface decoration generally. Santa Anastasia in Verona, St. John Lateran in Rome, Santa Croce in Florence, and many others, illustrate very fully the charm and the propriety of geometrical designs as a feature in decorative art. Very good examples of this richness of effect and appropriateness to surface decoration may be seen in Fig. 4, a piece of marble inlay from Florence; Fig. 109, a piece of modern tile pavement; Fig. 142, a Chinese diaper; Fig. 376, a piece of modern wall-paper, and Fig. 403, a fragment of mosaic.

To some of the figures of geometry a symbolic or inner meaning has been attached, as in the case of the equilateral triangle, circle, hexagon, and others. The consideration of this will, however, more fitly come before us in our remarks on symbolism; it is merely mentioned now as affording one more reason for the constant recurrence of these forms in ornamental art.

Another great advantage resulting from a geometric basis is found in the great facility with which such a design can be put together by any one of ordinary skill and care, for the most elaborate and beautiful designs may be composed of very few and simple elements. In the Italian cinque-cento example, Fig. 6, from an inlaid cabinet in the very fine collection of such things in the South Kensington Museum; in Fig. 21; in Figs. 113, 130, 403, it will readily be seen that though the collective result is of a rich character, the units of which the designs are composed are very simple in form, and require only the most ordinary care in their arrangement.

A great variety of design is often procurable from a very simple combination of lines by strengthening some and ignoring others. Thus, Figs. 2, 3, and 6 are all based on the same general arrangement, the slight modification made in the setting out being nevertheless quite sufficient to give each a very distinctive character of its own. Figs. 304, 305, are in the same way identical in their construction, the difference in effect being produced by the two methods of colour arrangement. The judicious employment of colour is in itself sufficient to produce a great variety. This fact we noticed very strikingly at the International

Exhibition of 1862, where one of our leading manufacturers of enamelled tiles had what, at a casual glance, appeared to be a beautifully varied display of designs, and yet, on closer investigation, it became apparent that the whole secret lay in the colouring, and that the actual geometric lines were the same throughout the series. In the same exhibition, among a large collection of drawings sent from the Madras School of Art, were some that derived great interest from their recognition of this necessity of a knowledge of geometry as an essential in the study of design. The drawings referred to were simple outlines of geometric rectilinear or curvilinear figures combined into patterns of varying degrees of complexity, and were the first exercises required of a student to test and develop his powers; while the Belgian government exhibited a large collection of objects made at the Kinder-Garten School of Nevilles, and conspicuously amongst them numerous examples of plaiting and geometric combinations constructed out of slips of coloured paper, or straw stained of various tints. The New Zealanders, and many other savage races, are very clever in the formation of elaborate woven geometric patterns. In any museum into which such things enter, our readers will have no difficulty in finding numerous examples of their skill.

We have already said that in any floor-covering a sense of flatness is a valuable, and in fact an indispensable, quality; hence, while a good diaper is very suitable, the great bunches of roses tied together by streaming ribbons into long festoons, though only too common in carpeting, are an offence against good taste. We have lately seen a singularly grotesque violation of all propriety in a carpet where stud-like or bossy forms of fictitious brass were spread at intervals over the floor, their assumed function being to fasten down a counterfeit ribbon that between these points of attachment was represented as freely waving over the ground; the alternative apparently being to step from boss to boss in crossing the room, or to risk being thrown down by the numerous pitfalls laid by the disengaged loops. A design like this may possibly be "a sweet thing," or further attraction still, "a great novelty," but it is none the less an outrage and an offence, not only, as one would imagine, against artistic canons of taste, but also against even that common sense, the possession of which, unlike the influence of the canons, so few are willing to repudiate. Even the exclusive use of geometrical forms is not a sufficient safeguard against this error. the simulation of relief where flatness and evenness of surface are most essential, as we can very conclusively discover by referring to Fig. 9, a most uncomfortable-looking pavement found at Pompeii; and we see the same error of judgment in Fig. 12, a pavement from Santa Maria Maggiore, Rome, a church containing many other examples of geometric design, mostly as excellent in treatment as the present example is faulty. In the example from the inlaid lid of a box, Fig. 6, already referred to, the same mistake is committed, and all our readers will, we trust, on reflection, see how superior to this is the Florentine marble-inlay, Fig. 4. We cite this example more especially as it, too, like the other, relies for its effect on the repetition of a six-pointed stellate form over its surface; how meretricious the first, how pure in feeling the second! We have other illustrations of this false use of geometrical forms in Fig. 122, a mediæval French example; and in Figs. 133, 136, 143, 146.

Geometrical forms are not uncommonly met with in classic work, shaft sections, dentels, volutes, and many other details being of this character. The most notable and conspicuous use, however, will be found in the setting out of the various fret forms that are so marked a characteristic of Greek and Roman work. In classic ornament the fret is composed of a series of fillets or bands intersecting each other at right angles, the fillets and the intermediate spaces being of equal width, though in the simpler forms the bands may be parallel or at right angles

to each other without actually crossing. Frets, from their slight resemblance at times to the wards of a key, are sometimes known as "key patterns." In the earlier Greek vases in our national collection the gradual development of the fret may be very well seen. In some cases the band to be ornamented has but a series of upright lines, in other cases, as in Fig. 50, we find these joined in pairs, or with a simple arrangement of lines at right angles to them, as in Figs. 68, 83. These arrangements gradually grow more complicated till at length we reach arrangements like Figs. 67, 69, 84. In archaic examples the lines are not always at right angles, as we may see in Fig. 86; nor is the design continuous as in the later examples. Figs. 50, 59, are examples of this feature of the early frets. Fig. 67 may be regarded as a very typical specimen of what is ordinarily understood by the term fret; but in the works of all people we find a delight in patterns of a more or less fret-like form. In Fig. 29, a Norman example that has no doubt been suggested by a classic form; and in Fig. 34, an example from New Guinea; in Figs. 25, 39, Moresque examples; in Fig. 56, a Mexican design, we see instances of the introduction of oblique lines. Many of the Chinese frets are very curious. They are generally very disconnected in character. Figs. 42, 63, 73, 102, illustrate this peculiarity very clearly. In some cases circular lines are admitted, and this, added to the numerous breaks of connection, renders their origin, as in Fig. 61, scarcely recognisable. Figs. 46, 51, 52, 53, 60, and 72, are frets within circles, a very characteristic Chinese application of them. Other examples calling for passing remark are seen in Figs. 43, 44, Mexican examples, where a simple fret arrangement is developed by a variation of colour; Fig. 62, a very singular example from ancient Peruvian pottery, compounded apparently of a fairly good Greek type of form alternating with a strangely barbarous addition; Figs. 88 and 99, very rich and satisfactory Chinese examples; Figs. 90, 101, Arabian frets, designed like the two preceding examples not as borderings, but for the decoration of large surfaces; and Fig. 91, a Celtic example from the old stone cross of Kilklispeen, Ireland.

The mosaic work of classic and mediæval times is frequently of a geometric character, though in some cases where figure subjects, heads, groups of flowers, and such-like are introduced the setting out of the panels and the borderings of the pictorial treatments are alone geometric.

Mosaic in its most extended sense may be understood to be the combination of minute portions of any substance into geometric, foliated, pictorial, or other patterns, the pleasing result of the whole being produced by the aggregation of particles in themselves frequently of rough and irregular shapes; but the term, as generally employed, is taken in a more limited sense to imply the formation of such designs from the employment of various kinds of stone or marble, as porphyry, serpentine, and others, and, at a later period, the introduction of vitrified substances.

Mosaic has been employed from the remotest ages of which we have any knowledge. It is traceable to the most ancient periods of art, and seems to have arisen amongst the Eastern nations, races which even to the present time show a wonderful facility for intricate design and a fine sense of colour. We read incidentally in the Book of Esther (i. 6), in the description of the Palace of Shushan, belonging to king Ahasuerus (who reigned about 500 B.C.), of a pavement of red, blue, white, and black marble, or, according to the reading in the margin, of porphyry, marble, alabaster, and stone of blue colour.

The Egyptians some three thousand years ago practised a curious kind of mosaic, wherein the pattern was produced by a number of very small rods of coloured opaque glass arranged perpendicularly to the surface of the design, so that if any number of sections

were made horizontally through the glass each would be of exactly the same pattern. The skill required is shown not only in the design but in the minuteness of the workmanship, for some of the details can only be seen by the aid of a magnifying glass, which no doubt was also used in the manufacture, though no example of a lens, so far as we are aware. has been found in the Egyptian remains. Layard discovered one, while excavating at Nineveh, and there can be but little doubt that the Egyptians also were acquainted with its use and properties. Winckelman mentions two specimens of this minute Egyptian mosaic work, one of which he says though not quite an inch in length and the third of an inch in breadth exhibits on a dark ground a definite design. From the condition of this it was at first difficult to form any conception of the process of its manufacture, till a small fracture proved that it was composed of filaments passing right through from end to end. other specimen, about equal in size to the former, was also produced in the same way. It exhibits forms in green, yellow, and white, on a ground of blue. All the details are perfectly distinct, and though the keenest eyesight is needed to trace some of the lines, they yet all pass faultlessly throughout the thickness of the piece and re-appear in fac-simile upon the reverse side. Mosaic pavements, not only of a geometric character but also of figure subjects, were, in the reign of the great Alexander, common throughout Greece. Pliny in his writings refers to several eminent workers in mosaic. Mosaic work was introduced into Rome about 100 B.C., examples being brought amongst other spoils of war from Greece, and it was speedily adopted by the wealthier Romans in the decoration of their villas. As time passed on various modifications of the working arose, but into some of these, as the opus vermiculatum, the most elaborate development, limited to the direct representation of figures, animals, and pictorial subjects generally, we need not enter, as they are foreign to our present subject, the use of geometry in art.

The opus tessellatum, the most ancient kind of mosaic, was composed of small cubes of marble varying from half an inch to an inch square, and formed into simple geometrical patterns, either curved, as in the scroll and guilloche forms, or straight-lined frets and bands of colour. Many fine examples of this kind of mosaic are from time to time discovered in our own country, and may be seen in our leading metropolitan and provincial museums. The desirability, however, of greater variety of colour was speedily felt, and the opus figlinum was developed to meet this requirement; in this the small portions, technically called tesseræ, were formed of a combination of silex and alumina coloured by a metallic oxide. This soon became exclusively used, as from its greater variety of colour, the comparative ease in shaping the pieces required, and its cheapness, compared to that wherein marbles of more or less cost were required to produce the more elaborate effects of colour, the opus tessellatum was unable to compete with it, though many of the earlier pavements were admirably wrought out, and more especially so, when we consider the very limited means that very often were at the disposal of the artist. Thus, to give merely one example, a pavement found at Cirencester, representing the sea with appropriate fishes, lobsters, crab, star-fish, spiral and bivalve shells, dragons, and other marine monsters, was composed of the following few and simple elements—the white given by chalk; a cream-colour of hard freestone, grey being produced by the same stone affected by heat; yellow, oolitic pebbles; chocolate, from the old red sandstone; slate-colour, limestone from the lower lias; while the light red, dark red, and black were derived from the clays of the neighbourhood. The opus Gracanicum, a glass mosaic, was conventional in design, and frequently used as an inlay. The opus

Alexandrinum was a marble tessellation generally composed of porphyry, a reddish-purple stone, and serpentine, a dull green, arranged into geometric patterns that were cut into the white marble slabs that composed the groundwork of the pavement. Sir Digby Wyatt's work on mosaic will supply numerous examples of all these modifications, and much additional information on the subject to those of our readers who care to go into the subject to a greater extent than we here feel justified in doing.

Tarsia work, or Tarsiatura, was a kind of mosaic in wood, and we see at the present time a very humble imitation of it in the inlaid wood-work on fancy articles, known as Tunbridge ware. Tarsia, inlaid wood, either stained or of different natural shades, was at one time much used in decoration. It originated in Florence, but soon spread throughout Italy and France; in the latter country it was termed marqueterie. In the sixteenth century Cologne was very famous for its inlaid tarsia-work furniture. In the International Exhibition of 1851, a table of Spanish manufacture was exhibited, having a decoration upon it in this tarsia, or marqueterie, three million pieces of wood, it was stated, being employed in its formation. Buhl-work is another modification of the principle of mosaic. Buhl, an Italian, who was born in the year 1642, and died in 1732, settled in Paris during the reign of Louis XIV. The work called after his name, and which at one time was in high repute, was usually produced by an inlay of brass, generally scroll-work, in a ground of tortoiseshell, while at the same time one Reisner, a German, who bore the appointment and title of Ebiniste du Roi, introduced a kind of work owing its effect to the introduction of ebony upon a ground of tulip-tree wood.

Neither of these two last methods of working possess any great intrinsic beauty, and only owed—at least in a great part—their popularity to the patronage they received at the heads of the Court, and of all those who desired to be thought fashionable; and we may add that they appear to have met with the same fate as the once popular but now well-nigh forgotten manias for Dutch tulips, Cochin-China fowls, potichomanie, and such-like. It will of course be obvious to our readers that many such modifications and combinations of substance might be formed, and we shall merely mention one other, the great use made throughout the Middle Ages, and more especially in Italy, of a decoration upon chests and various articles of domestic furniture, musical instruments, &c., formed by small geometric patterns of ivory on a ground of dark wood. Examples of these are very numerous in the South Kensington Museum.

Geometry enters very largely into Gothic architecture, and the ornamental details that spring from, and adorn, the construction. Many of the most characteristic and typical forms are markedly geometric in character, as, for instance, the dog-tooth moulding of the Early English period; the ball-flower of the Second or Decorated period, shown in the central form of Fig. 106; and the Tudor rose, Fig. 192, of the Third or Perpendicular period, no less than the ruder forms of the billet, nail-head, zig-zag, &c., in the Norman work that preceded these. The window traceries of the various pointed styles are distinctly geometric in their main lines. In the Early English Gothic, though the lancets are generally simple in form, they at times have trifoliate heads, as in Raunds Church, Northamptonshire; while at other times two lancets in combination have a pierced circle over them, the first step towards the wonderful richness of form that was ultimately developed. The windows of the Early Decorated period are perhaps the finest examples to study, as later on a too great redundancy of detail makes itself felt. In the thirteenth century Gothic the geometric panels so frequently found in the framework of the stained

glass are generally very rich and beautiful in form. Shaft sections are almost invariably geometric, in simple work circular or square; at other times a central circular mass, surrounded by smaller shafts of the same section; or quatrefoil, hexafoil, or octofoil; at times, as at Canterbury, simple right-line regular hexagons, while in richer examples several geometric forms are combined together. Gothic tiles, though frequently decorated with rude figure-subjects, grotesque animals, foliated and floral forms, have these designs generally inclosed within a geometric framework, while at other times the whole field of the tile is covered with a design of geometric character.

In hot climates the windows are frequently richly carved. It is essential that, for the sake of air, the openings should be numerous, while, to prevent the penetration of the sun's rays, they are very small; they are therefore admirably arranged according to some geometric pattern, and frequently one of great intricacy. Very good examples may be seen in Cairo and throughout India. Fig. 31 is a Cairene window-piercing; Fig. 333, one from Gujerat.

Geometrical forms are not uncommon in nature. Perhaps the most beautiful illustrations will be found in the crystals of falling snow. Minute and evanescent as they are, the variety of design in them, and its charming delicacy, are something wonderful. They are all stellate forms with six rays, and of these, three are ordinarily much more fully developed than the three that alternate with them. If any of our readers who are interested in designing will take the trouble to refer to the works of Glaisher, Lardner, or other reliable authors who figure these crystals, or, better still, will, during a gentle fall of snow, allow a few to fall on black cloth, they will find themselves amply repaid. Care must be taken not to breathe on the natural specimens while examining them, or they will at once melt, and all the sharp precision of form that is so beautiful a character in them will dissolve. In a heavy snow-storm the spiculæ get broken in their descent, and the forms are often very imperfect. Many kinds of star-fish, as, for example, the common "five-fingers," as it is often termed, the Uraster rubens of science, and the gibbous starlet, Asterina gibbosa, assume various modifications of the pentagon. The section of the stem of the Stapelia Hystrix, a native of South-east Africa, is a very beautiful pentagonal star. The stems of the Bramble and Meadow-sweet, when cut across, are seen to be five-sided, the angles being replaced by rounded lobes. Many of our most common flowers are found to be pentagonal in plan, the London Pride, Avens, Crowfoot, Cockle, Primrose, Hawthorn, Dog Rose, Elder, Lime, Columbine, Bitter-sweet, Stone-crop, and Periwinkle are but a few examples; while the hexagonal arrangement is seen in the Lily of the Valley, Tulip, Crown Imperial, Snowdrop, Crocus, and many others. The Holly and Tormentil, and the great order of plants known as the Cruciferæ or Cross-bearers, have their parts based on a square. We meet with the square again in the sections of the stems of many of the Labiate plants, as the white Dead Nettle, the Ground Ivy, and numerous others. In the Arrow-head, Water-plantain, Frog-bit, Water-soldier, and some others, the parts of the plants are in threes. In most aquatic plants, as in the Water-plantain, the Flowering-rush, and the Sedges, the stem is an equilateral triangle in transverse section. It is hardly necessary to pursue this part of the subject any further. We may, however, impress upon the reader the importance of studying from Nature herself, if accessible, who will supply many other examples of the geometrical forms that are so common and so pleasing a feature in floral growth. The subject has also been discussed in a work on "Plants, their Natural Growth and Ornamental Treatment,"

The honeycomb will no doubt occur to many of our readers as a beautiful example of natural geometry. The cells being hexagonal there is no valuable space wasted, since hexagons in contact with each other completely fill up a given space. There is no intervening interval, as there would have been if circles or pentagons had been employed instead; and springing from this we may mention an example of the commercial advantage of the knowledge of a little geometry. The biscuits for navy use were originally made round, but there was found to be a twofold disadvantage in this. In the first place, in stamping them out of a sheet of prepared dough, all the material was not used up, and secondly, when packed for a voyage they did not fit closely, and as both dough and space were too valuable to be wasted the biscuits were made hexagonal in form, thus getting over both difficulties at once, for now no material is wasted in the stamping out, and no space lost in the stowage. The only simple forms that will thus fit together without intervening spaces are the square, oblong, lozenge, equilateral triangle, isosceles triangle, and hexagon.

Turning our attention briefly to the leading geometrical forms found in ornamental art, we commence with the triangle, and pass thence to the square, rhombus, and polygon, and the circle and other curved-line figures. The equilateral triangle, except when symbolically introduced, is seldom found alone. We have, however, examples of its use in Fig. 82, a Chinese example from the South Kensington Museum; Fig. 87, a piece of Byzantine work; Fig. 110, from majolica ware, curious as having two of its sides curved; Fig. 125, an Italian example, and in Figs. 317, 318, where it forms the bounding line of Elizabethan carving. The symbolic use of the triangle is seen in Figs. 138, 184, 186, 187. In two of the examples we have the triangle pure and simple; in the remaining two it is the basis of the curved forms seen in the illustrations. The equilateral triangle is more ordinarily met with in combination with the hexagon than alone. We see instances of this combination in Figs. 1, 15, and 105. The right-angled triangle, formed by cutting a square in halves or quarters diagonally, is a much more common form, owing to its working so well with the square. In Figs. 111 and 127, the first a piece of mediæval wood inlay, the second an ancient Egyptian example, the whole design is exclusively composed of these triangles, while in Figs. 109, 113, we see them in combination with the square. The isosceles triangle is rarely met with, but we see it in Figs. 24, 38, ornaments from early Etruscan vases in the British Museum; in Fig. 282, an Elizabethan example, and in Fig. 408, the bordering of a plate of majolica ware in the South Kensington collection. The square is a very early and common form, occurring abundantly in the oldest historic monuments and throughout the whole field of ornamental art. We see it in Figs. 1 and 28, early pavements; in Fig. 30, a piece of Byzantine carving; in Fig. 88, where the complicated form of Chinese fret is based on it; in Fig. 89, a piece of Byzantine interlacing from the capital of a column; in Fig. 91, a Celtic example; in Fig. 108; in Fig. 128, a string-course from an Italian church; in Fig. 130, an ancient Egyptian example, where a very considerable amount of richness of effect is produced by the combination of squares of different sizes; in Fig. 241, a piece of painted Assyrian tile; in Fig. 289, a diapering having the square as a groundwork; in Figs. 290 and 291, the first from Sèvres porcelain, the second on Chelsea china; in Fig. 320, the pattern on the dress of an effigy in Beverley Minster, date fourteenth century; in Fig. 326, another Gothic diapering; in Fig. 333, an Indian example already referred to; in Fig. 373, carving from a club, Swan River, British Museum, and in Fig. 403, a piece of pavement. The oblong is by no means so commonly met with as the square, but we

have, in Figs. 11, 13, 41, and 124, examples of its introduction, the first two being forms resulting from weaving, taken from Indian grass matting, the second two from wood inlays. The rhombus or lozenge, a modification of the square, is occasionally met with. As the lead lines of old windows are often of this form the designs for the glass were frequently based on it, and we may see examples of it in Fig. 9, a pavement from Pompeii, entirely composed of rhombic forms; in Fig. 65, a Greek pattern where the unit is made up by a double rhombus; and in Fig. 105, in the two borderings. The rhombus is ordinarily produced by placing two equilateral triangles base to base; six such triangles in juxtaposition, and having their apices in contact, form the hexagon. Of polygonal forms the regular hexagon is by far the most common. This no doubt is partly owing to the fact that, as we have seen in speaking of the honeycomb, these forms can be placed in juxtaposition, and that when thus placed they will completely cover a space, as may be seen in Fig. 112. A further reason will probably be found in the circumstance of the hexagon being the easiest polygonal form to construct with instruments, as the radius of the circle will go just six times round the circumference. The diameter of a circle is not mathematically one-third of the circumference, but the fraction is so minute that it does not at all affect the practical result. The pentagon occurs occasionally in Byzantine art, and more especially in connection with an ornamental form called the pentalpha, and in the stellate forms so frequently met with in Gothic diaperings the units ordinarily have five rays. Examples of the hexagon may be seen in Fig. 1, already referred to; Fig. 15; Fig. 31, where the whole construction, though not at first obviously so, is based on the hexagon; Fig. 98, a very common form in Byzantine carving, where simple geometrical forms, as in Fig. 87 and the present instance, are used to enrich a plain surface of wall; and in Figs. 105 and 122 inlay designs. In Fig. 142 we have an example of the use of the octagon in a piece of Chinese diaper, a form frequently thus employed by them for the decoration of flat surfaces.

The so-called Kimmeridge coal-money affords numerous examples of quaint geometric design. These relics of antiquity, though ordinarily known as coal-money, have long been a mystery to archæologists, their use as money being merely one of the theories which have been proposed as a means of accounting for them. They derive the name Kimmeridge from being chiefly found near a bay of that name in Dorsetshire, though they are also met with in several parts of the Isle of Purbeck. The cliffs surrounding Purbeck and Kimmeridge Bay are of a soft and laminated shale of a dull black colour, and it is of this rock that the coal-money is made. In excavating, urns and vases of two kinds are met with, some being of black earthenware of a very rude construction, while others are of a highly-finished red pottery, richly ornamented, and in every way of excellent quality. Coal-money is frequently, together with the bones of animals, found in both these descriptions of pottery. The so-called coal-money is circular, the edge being surrounded by mouldings, evidently turned by a lathe. Almost all the specimens have a square recess on one face, and often a series of lines perpendicular to the sides of the square, as seen in Fig. 152, may be met with. Many other devices are found, as for instance one central round hole, two such holes, or three, four, or five circles arranged at nearly equal distances from the centre and from each other may be seen. Fig. 163 presents to our notice three such circles on a rude triangular form. A theory has been held that they were intended to string as bracelets for personal adornment, or to be worn as amulets. This, however, is untenable, as ordinarily there is no means of thus stringing

them. In only one of the twelve specimens before us as we write does any opening pass right through; it therefore is the only one out of the dozen that accommodates itself to this theory. They can scarcely have been used as money, as they are met with in so limited an area, and of a material too fragile for such a use. They cannot be of British manufacture, as they are so extremely local. The two very different kinds of pottery found would appear to indicate an intercourse between a rude and a highly-civilised people. Probably, therefore, the limited area over which they are found is the site of some ancient colony, a belief still further encouraged by the fact of its being on, or near, the coast. The remains cannot be Roman, or similar remains would doubtless have been found elsewhere; nor would the Romans, or any other warlike people, have established themselves in a position so unfit for a military station. It is conjectured that the remains are Phoenician, the Phoenicians, a great mercantile people, being known, on the authority of Strabo and other writers, to have visited Britain at a very early period for purposes of barter, supplying the natives with pottery and other articles in exchange for tin, and that, finding both clay and coal in the Isle of Purbeck, they established a colony there for the fabrication of the

pottery thus required, instead of having the risk and burden of importing it.

The circle is naturally the commonest of the curvilinear series of geometric forms, and the earliest applied to decorative art. The following examples will show both from their number how common a form it is, and from the diversity of the localities from whence they are derived, how universal has been its use :- Figs. 4 and 18 we have already referred to. Fig. 17, from a piece of early work at Metz, shows a pleasing contrast between the circular and angular forms; Fig. 75, a Saxon brooch, British Museum, owes any beauty it may possess to the ten circles engraved on it; Fig. 94, a pattern engraved on ivory, Byzantine workmanship, eleventh century, South Kensington Museum; Fig. 96, painted on an Egyptian mummy-wrapping, British Museum; Fig. 97, a simple example of the Gothic tracery, that under the name of "wheel" or "rose" is often of an exceedingly rich character, as may, in a more especial degree, be seen at York, though almost all our cathedrals afford fine specimens; Fig. 106, central figure, that known as the Ball-flower, a very characteristic form of the later Gothic, generally occurring at slight intervals, as a detached form, in hollow mouldings, or more rarely united by a waving stem or conventional foliage: the two lateral figures are forms very similarly applied to the Ball-flower, but both from French buildings. Figs. 114 and 121 are from some Roman pottery found on the site of a kiln in the New Forest. The first of these ideas, the intersecting circles, is a very characteristic form in the decoration of the celebrated Oiron, or Henri-deux ware. It occurs nine times on a candlestick in the South Kensington collection, and the guilloche, another very characteristic ornament based on the circle, seven times; Fig. 123 is from a piece of old furniture; Figs. 234 and 239 are both ornamental forms based on the circle, and met with on the painted bricks from the palaces excavated at Nineveh; Figs. 243 and 261 are both circular forms of a patera character, the first from Nineveh, the bracelet centre of one of the many jewels represented on the sculptures as worn by the kings, while the second is from an Indian textile fabric. The whole of Plate XVI. is devoted to forms based on the circle, the most noteworthy being Figs. 264, 264\*, and 271, all from tiles found on the site of Chertsey Abbey, and Figs. 267 and 268, examples from early Greek pottery in the British Museum.

As derivatives from the circle, we have the semicircle, trefoil, quatrefoil, and multifoil figures, the scale form, waved line, vesica, and guilloche. It will be easily seen that the scale form and the waved line merely result from two arrangements of semicircles or arcs.

Foiled figures are most characteristic of Gothic, Moorish, and Hindu work. The waved line is chiefly met with in classic examples, while the scale form is common in every style. The vesica, Fig. 140, a form created by the intersection of two similar arcs, has symbolic significance, and is found only in Christian art. The guilloche, in its numerous modifications, is more especially an Assyrian, Greek, Roman, and Renaissance form.

Examples of the semicircle may be seen in Fig. 14, a Moresque illustration already referred to, and in Fig. 104, a piece of Burmese wood-carving. The carving, whence this latter example was taken, was interesting also on account of its recognition of the value of a simple diaper as an effective enrichment of what would otherwise have been a bare space, as in the centre of one of the panels we find a roughly-carved peacock, that even with his widely spreading tail does not completely fill up the space. The groundwork thus rendered visible is scored over with oblique lines at fairly regular intervals, so as to form a series of squares. Returning to our consideration of the semicircle, we find other illustrations of its use in Fig. 107, a bordering from a majolica vessel; in Figs. 112 and 129; and in Fig. 332, as a framework inclosing the rude Norman designs therein represented. The semicircular arch, Fig. 415, is so frequently met with in architectural construction, that we are scarcely surprised to find it also freely used in decoration, as its use in the one case would bring it so prominently before the eye of the designer as a pleasing form to be utilised in ornamental work. If our readers will, for example, turn to Fig. 419, a German Gothic example, they will, we think, readily agree with us, that the interlacing semicircular forms there shown were very probably suggested by an architectural feature, in the same way that many other forms originally constructive in their nature are incorporated into ornamental designs, as, for instance, the pseudo-buttresses that fictitiously aid in supporting reading-desks, stall-ends, and other details of ecclesiastical furniture, or the canopies that we so frequently see duly rendered with all the minutiæ of construction over the figures of the saints and martyrs of our stained-glass windows, or stretched horizontally on the pavement, where their utter want of fitness, the sham of their being in any way a protection, is still more obviously seen, on many memorial brasses both ancient and modern.

Examples of foiled figures, from their association with Gothic work, may very frequently be seen. We do not here dwell upon their use in architecture so much as in more distinctly decorative work, but we may just point out some few examples of the form, since the forms, though constructive in their origin, are also intended to be decorative in effect. Trifoliate heads to doorways, window-heads, and niches, are very commonly met with in the Early Pointed Gothic. Winchester, Westminster, and Salisbury will supply many good examples of these applications of the forms. Quatrefoils, though not so common as trifoliate forms in early work, may occasionally be met with, and in later work are very familiar accessories. Examples of the ornamental use of the quatrefoil may be seen in Fig. 74, when it becomes the bounding form of a stained-glass design of cruciform type; in Figs. 209 and 211, where the designs for monograms are inclosed within them, and again as an inclosing form, its ordinary function, in Fig. 264. The hexafoil may be seen in Fig. 93, a window opening, from Orvieto. Multifoliate forms are exceedingly common in the window tracery of the Decorated or fourteenth century period of Gothic. Any good work on mediæval architecture will supply numerous illustrations of these, we need not, therefore, pause to

further particularise on the point.

The scale form, met with on the oldest Egyptian monuments, and of common occurrence throughout the whole range of art, is more especially abundant on the pottery of the Renaissance, and very frequently enriched by a doubling of the lines and the presence of some central ornamental form. Figs. 8 and 10 are two very fairly characteristic examples.

The wave-line, a name expressive of its resemblance to the undulations of the oceana name, however, that would be more fitly applied to the scroll form, seeing that we ordinarily accept as our ideal of the wave the mass of water that with curling crest travels onwards till it rolls over and breaks into a mass of silver foam, rather than the mere heaving swell—is a form of very common occurrence in ornamental art. Though occasionally formed of semicircles in juxtaposition, it is more ordinarily less pronounced in its curvature, being composed generally of smaller portions of circular curves, and those of a greater radius than would be possible if the entire semicircle had to be used. Two very marked examples may be seen on Plate XXII. In Fig. 341 the undulation of the line is very slight, while in Fig. 342 the amount of curvature is much more considerable: the first illustration is a painted mural decoration from an Italian church; the second, a piece of ivory carving of Byzantine workmanship. Other instances of the use of the wave line may be seen in Fig. 380, a bordering from a slab of Nankin porcelain in the South Kensington Museum; in Fig. 381, an Indian example; in Fig. 396, where it forms the central stem of a simple foliate design from a Greek vase; in Fig. 397, taken from the moulding that runs round a doorway, Chapter House, Rochester Cathedral; in Fig. 399, a piece of very characteristic German metal work, from the church of St. Mary, Rottweil; and in Figs. 398 and 402, two other instances of the occurrence of the line, in designs taken from antique Greek vases in the British Museum collection.

The guilloche, a form produced by the interlacing of circles, is capable of several modifications. Fig. 116 may be considered as the simplest and most common form. In Fig. 117 we see the same arrangement, but enriched by variation of colour. In Fig. 120 the plain central spot of the two preceding examples, both from Nineveh, is replaced by a patera or rosette form, which, together with the little angular pieces at the junctions of the circles and the fictitious effect of relief, gives a wholly new character. This example is from a piece of Spanish pottery in the South Kensington Museum. In Fig. 258, a relief example from an old chest in our possession, we see these points still further developed, the angular points being still further enforced by being cut into facets, and the central rosettes all varied in character. In Fig. 119, a Renaissance example from a doorway in Rouen, we find a further character of enrichment produced by having the interlacing circles alternately large and small, and alternating again with a similar series, so that the small circle of the one is bounded and circumscribed by the larger one of the other. By having a variation of colour in the two series of circles, a very considerably greater enrichment of effect would readily be produced. In Fig. 118 a very rich arrangement is created by the combination into one ornamental composition of two similar guilloche forms parallel to each other.

The guilloche, like the fret, the anthemion, and many other ornamental forms, though easily recognisable in its typical form, passes by almost insensible gradations into other developments. Thus, in Fig. 115, a speira or plait, our readers will, we think, readily detect the guilloche idea underlying the actual form. It is, in fact, a guilloche form pulled out, so to speak, thus throwing the intersections into angular forms instead of circular. If we could imagine a sufficient pressure exercised in the direction of the length all the forms would become circular, and the result would be a guilloche. In Fig. 70, a simple band

of ornament from a Greek vase, we may see the archetype; but little would be needed to form these rude markings into a true guilloche, while, on the other hand, the same rude forms, if placed somewhat more closely together, would suggest the beautiful form known as the "cable" moulding, a form more especially seen in Romanesque and Norman, though by no means exclusively confined to such work. A very little modification in Figs. 114 and 121 would convert them into guilloche forms. In Fig. 114, the placing of a smaller circle within and tangential to the larger would at once produce Fig. 119, while the placing of the detached circles of Fig. 121 in contact would result in a form like Fig. 116: in either case a true guilloche.

The guilloche and scroll forms, though more especially features of classic ornament, were known in Egypt many ages before they were adopted by the Greeks, and the most complicated form of guilloche covered a whole Egyptian ceiling upwards of a thousand years before it was represented on the comparatively late objects found amidst the remains of Assyrian art from Nineveh.

The scroll or spiral line has from its beauty been largely employed in decorative art. In many cases it forms the entire feature, as in Fig. 250, a Greek example; or in the ruder form, Fig. 247, met with on a piece of ancient Peruvian pottery in the British Museum; though more ordinarily it merely forms the groundwork for a design of a more or less conventionally foliate character, as in Fig. 248, a piece of Indian inlay work; in Fig. 253, an example of English thirteenth century embroidery; or in Fig. 254, painted at the base of the handle of a Greek vase. It is also seen in the Ionic and other capitals. Other examples of its use may be seen in Fig. 260, from a Roman mosaic; in Fig. 382, a piece of thirteenth century carving in walrus ivory, the ornament on the back of one of the bishops' chairs in a set of chessmen found at Uig, Isle of Lewis, and now preserved in the British Museum; in Fig. 391, an example of marble inlay on a chimney-piece of Milanese work, dating about the year 1600, and now in the collection at South Kensington; and in Fig. 393, a Moresque example from the Palace of the Alhambra.

Many beautiful examples of the spiral line may be met with in nature. Amongst fossil remains the various species of Ammonite,\* as in Fig. 252, supply many interesting illustrations, while those of our readers to whom such remains are not easily accessible for reference will find other instances almost as beautiful in many existent species of mollusca. The Planorbis, Fig. 251, is a good and very easily procurable example. A net swept along the bottom of almost any pool will scarcely fail to bring to the surface several specimens of it. In plant life the same beautiful line is seen in the inflorescence of the Comfrey, Fig. 246, a plant very commonly to be met with on the banks of our streams; and again in the flower-heads of the Forget-me-not, Borage, and several other plants. The opening leaves of many of our ferns afford equally good examples, the fronds' being rolled up in what is termed a circinate manner, the spiral gradually unwinding as the vigorous spring life asserts its power.

The spiral, under the name of the gurge or whirlpool, is one of the forms of heraldic charges. Whenever introduced in any arms it will always be found to be blazoned in azure and argent. We see it represented in Fig. 249. It is a somewhat unusual form.

The guilloche and spiral forms that as we have seen are in a special degree characteristic of classic work, are naturally very frequently found in the ornament of the period of great

<sup>\*</sup> So called from its resemblance to the horns seen on the statues of Jupiter Ammon, a deity whose symbol was the ram.

classic revival or Renaissance. The ceramic ware of Italy, painted under this influence and preserved in our museums, affords very numerous instances. The designs met with are very varied in character, and will frequently be found to afford suggestive treatments for study. The centres are ordinarily figure subjects, historical or mythological, though at times heraldic, while the borders are either distinctly geometric in character, or composed of spiral and other leading lines more or less freely foliated. As the ware figures largely in all collections of ceramic art, a brief digression, for the sake of those who may not hitherto have studied the subject at all, will, we trust, be deemed not inopportune

nor altogether out of place in the present pages.

The ware known as majolica derives its best known name from the island of Majorca, since it was first brought thence to Italy, the great seat ultimately of its manufacture. A Mussulman king of the Balearic isles having by atrocious acts of piracy spread terror over all the maritime portions of France and Italy, and having at one time twenty thousand Christian captives suffering a cruel imprisonment at his hands, in the year 1113, at the great feast of Easter, the Archbishop of Pisa in a burning discourse exhorted the Pisans to rush to the deliverance of their brethren, and to destroy the power of the infidels. Great enthusiasm was kindled, and men at once took up arms for a religious The conflict was a very prolonged and sanguinary one. Majorca, the chief town of the island of that name, resisted their efforts for a whole year. Eventually, however, the Moslems were defeated, their king, Nazaredeck, was slain, and the Pisans returned triumphant, with the rescued prisoners, to their native city, their galleys, in addition, being laden with spoils of war of immense value. Conspicuous amongst these were the specimens of majolica ware in question. For about two hundred years they appear to have been venerated as religious trophies. We have at least no authentic knowledge of any attempt being made to imitate them before the fourteenth century. Instead of preserving them in any public building, the Pisans built them into the external walls of their churches. Thus, in the very old church of Santa Apollonica, there is a row of these plates extending along the west front of the building, and other rows along the sides, beneath the overhanging cornice. In some of the oldest churches of Rome and Pavia also they are met with under similar circumstances. In the year 1500 a school of artistic pottery arose at Pesaro, and produced many excellent works. The finest period, however, was between the years 1540 and 1560, the perfection of the work during that time being greatly due to the enlightened patronage and support of Guidobaldo the Second, Duke of Urbino. He formed large collections of the drawings of Raphaelle, and other great masters, for the elevation of the taste of his decorative artists, and by personal study and actual practice of the art testified the earnestness of his desire for its promotion. From the circumstances of many free renderings of Raphaelle's work being met with upon the majolica of Pesaro, some English writers have termed it Raphaelle ware, but there is no sufficient evidence to confirm the early belief that the great artist ever himself painted any of the pieces, or that they were in even the most limited way executed under his direction; indeed, those which connoisseurs unanimously recognise as the finest examples were not produced till some twenty years after his death. As it chanced that two of the most skilful artists of the factory bore the same honoured name, a further element of uncertainty was introduced, and this circumstance no doubt helped to increase the misunderstanding, since the work was thus truly performed by a Raphaelle, and was marked accordingly on the back of the ware, but it was nevertheless not the production of the

Raphaelle to whom our thoughts at once turn when the name is mentioned. The figures are ordinarily outlined in blue or black, the draperies being coloured, and the creamy-white of the ground-colour of the ware left for the flesh. The glaze is either of a rich ruby colour, and metallic iridescent lustre, or a brilliant yellow, having all the splendour and sheen of gold. Pesaro, Urbino, and Florence were all seats of the manufacture. The wares made at Gubbio are still more famous for their splendid lustre, while the ruby tints of Pesaro are carried to a yet higher and unrivalled degree of intensity of colour. Some examples are also noted for their golden and coppery lustres. Faenza, whence the term fayence applied by French archæologists and others to majolica ware, Castel-Durante, Arezzo, Perugia, Bologna, Ferara, Ravenna, Deruta, and other Italian towns had also schools of ceramic art. Many fine examples of Faenza ware, generally known by its dark blue ground with arabesque forms in orange upon it, or alternate panels of those colours, may be seen in the South Kensington Museum. The death of Duke Guidobaldo was a heavy blow to the Florentine manufacture, as, when his fostering patronage was withdrawn, there was not a sufficient public demand for the higher-class work to maintain the old standard of excellence. The importation also about this time of several fine examples of Chinese pottery into Europe, and the consequent diversion of public taste, may have tended still further to influence adversely the sinking manufacture. The secret of the ruby lustre was lost even in the sixteenth century, though it has recently been imitated with a fair amount of success by the potters of Italy, France, and England. The various richly-coloured lustres were produced by preparations of lead, silver, copper, and gold, while a very brilliant white glaze, with the prized metallic lustre, was produced from tin.

Hitherto we have, in all our remarks, been dealing with the simpler forms of design; and though in these geometry is the life and often the only feature, we must still bear in mind that as we rise higher, employing treatments of animal or vegetable form, the geometry sinks into a subordinate place. It is still, however, very useful in setting out and defining leading lines and masses in a design; but beyond that, except in minor cases, it is powerless to please. It is valuable, for instance, in fourteenth century diaper, where the surface is cut up into squares or lozenges, both as boundary lines, and also on account of the contrast thus obtained; but the part we now admire is not the geometric basis of the design, but the delicate filling in of the spaces with oak, buttercup, or maple; and we unconsciously admire these the more on account of the inclosing straight lines that we should sorely miss if removed. The higher the character of the design the less should the merely mechanical geometric basis be obtrusive. Its presence is necessary, and as we have seen, is an enhancement of the beauty of the composition, but its place is nevertheless a subordinate one.

## CHAPTER II.

Asthetic Art—Symbolic Art - Literal meaning of Symbol.sm—Its Use in Religion and Heraldry—The Mediæval Pictorial Allegories— Susceptibility to Symbolic Teaching in the Early History of a People-Parables-Fables-Proverbs-Symbolism as a Vening of Truth—Symbolism as an Aid to the Illustration of Truth -Symbolism may be of Action, of Language, of Colour, of Form, and of Number-Symbolic Actions amongst Savage Races-The Rites of the Levitical Priesthood -The Symbolic use of the Fish in Christian Art—The Early Christian Church in the Catacombs of Rome—The Vesica Piscis—The Fish Symbols of the Egyptians—Dagon of the Philistines—The Sphinx, Classic and Egyptian—The Dolphin in Classic and Renaissance Art— The Serpent, Tortoise, Lizard, and Crocodile-Serpent Worship of the Jews, Mexicans, and Egyptians-Insect Forms, the Scarabæus and Butterfly-The Phoenix-The Dragon and Hydra as Symbolic of the Evil Principle-The Dragon in Chinese Art—The Ibis—Nisroch of the Assyrians—The Owl—The Cock—The Dove—The Dove Orchid—The Raven—The Magpie— The Peacock—The Pelican in Christian Art—The Pelican in the Old Testament—The Eagle in Roman, Christian, and Heraldic Art—The Robin—The Dog—The Stag in Classic and Christian Art—The Wolf—The Egyptian Apis—The Sacred Bull of Brahma—The Jackal—The Cat The Hippopotamus—The Pig—The Ass—The Lion as a Symbol in a Good and Evil Sense— The Evangelistic Symbols—The Creatures seen in the Visions of Ezekiel and St. John—Wyckliffe on the Evangelistic Symbols— The Human Form in Gothic Work—The Representation of Historic Events, with an Undercurrent of Symbolic Meaning—Figures of the Jewish and Christian Churches—Representations of the Soul of Man. The Agnus Dei -The Hand and Arm of the Lord-The Mosaics of St. Mark, Venice-Mosaic as a means of keeping Permanent Records of Great but Fading Pictures-Need of Individual Research and Study.

In the present and following chapter it will be our endeavour to give our readers some insight into the nature of symbolic art. We shall only be able to touch upon a few of the salient points; nevertheless, we trust that even this necessarily brief treatment of the subject will not be found without interest and profit; that enough may at least be brought forward to testify to the interest and advantage to be derived from pursuing the matter, and that our remarks may thus form, at all events, a foundation for the after-labours of any who may care to pursue the inquiry into greater detail. In the present chapter we propose to deal with the symbols derived from the animal kingdom, the fishes of the sea, the birds of the air, the beasts of the field, some realistic, others in their representations grotesque in the highest degree, the use of the human and angelic forms, and lastly the suggestion of the Deity; reserving for future consideration the great use made of forms derived from the vegetable kingdom, the influence of colour and number in art, and concluding with remarks on those forms that, like the cross and sacred monogram, forming a minor division, would appear to defy classification, having no relation to natural objects animate or inanimate.

Symbolic forms can never in the future attain to the importance they have done in the past, since, living as we do in a time when the opportunities both for imparting and acquiring knowledge are so great and widely spread, there does not exist the same necessity for this picture language. It nevertheless is interesting, and to the artist distinctly valuable, since we are by this means enabled to look through and beyond the rude forms and to grasp the inner meaning; for though in many cases the devices appear grotesque and almost barbarous in their quaintness, we must remember that they were but the outer shell, and often beneath a rugged exterior bore golden wealth of significance to those to whom they were intended to appeal.

All art, though capable of being divided into many diverse classes, may be broadly

massed under two great heads: the art that is sensuous, appealing to the eye from its beauty; or, secondly, the art that is symbolic, that touches a deeper chord, appeals to the mind or heart, that besides the outward seeming has an inner and deeper significance. All the noblest art-work that ever existed, that ever can exist, must belong to this latter class. The thoughts evolved from one work of art may be intrinsically nobler than those derived from another; but our readers will, we trust, agree with us that all artistic work is good only so far as it affords food for reflection—so far as it enables us to see something of the mind of the man—so far as it appeals, not to the senses only—like the Zeuxis grapes that the birds, if we may credit the old story (which personally we decline to do), came to peck at—but to the mind, the heart, the soul of man, those priceless gifts that lift him so immeasurably higher than the beasts that perish.

The word symbolism is Greek in its origin, and signifies literally a throwing or putting together of things, a positive and visible form implying a something else that is itself often incapable of representation, as, for instance, Truth; a form that may in itself be trivial in appearance, barbarous and archaic in its representation, that nevertheless, by education of thought and past association of ideas, is the sign or symbol of something higher than merely meets the eye. Symbolism, therefore, has naturally been largely employed as a ready means of impressing truths, in themselves great, in a simple language. We accordingly, then, expect to find it largely used in the service of religion, as a method of expressing abstruse doctrines in a way that may appeal more readily to simple hearers, as, for instance, in the old legend of the preaching of St. Patrick, wherein we are told that he illustrated the doctrine of the Trinity in Unity to his rude congregation by the familiar demonstration afforded by the trefoil growing at their feet, the three distinct leaflets combining, as we may see, Fig. 144, into one perfect leaf. It also, for the same reason, enters largely into the forms used in heraldry, the lilies of the Bourbons, the roses of the Lancastrians and Yorkists, the broom of the Plantagenets, being all forms in themselves familiar and commonplace, that nevertheless, by association with dynasties and great historic events, derive a greatly added weight of significance. These are but a few examples; many others may be very readily added by our readers on very brief consideration.

In the Middle Ages a great use was made of pictorial allegories as a feature in the pageants of the day. Thus, on the entry of Queen Elizabeth into the City of London at her coronation, there was on either side of the gateway a hill raised, the one on the north side rugged, barren, and stony. Beneath a tree, "all withered and deadde," sat a man in mourning garb and posture, having over his head a tablet inscribed "Ruinosa Respublica," other tablets about him bearing such sentences as those following:-" Blindnes of Guides," "Civill Disagreement," "Flattring of Princes." "The other hylle on the south syde was made fayre, freshe, grene, and beautifull, the grounde thereof full of floures and beautie; and on the same was erected also one tree, very freshe and fayre, under the whiche stoode uprighte one freshe personage, well apparayled and appointed, whose name was written, 'Respublica bene instituta.' And uppon the same tree also were fixed certayne tablets conteyning sentences, as, 'Feare of God;' 'A wise prince;' 'Obedient subjectes.'" Between these two hills was a cave from whence, on the Queen's arrival at the spot, issued Father Time, and his daughter Truth, who handed to the Queen the word of truth, the Bible in English. On the entry of Charles I. into Edinburgh, the city was personified by a fair lady, "attired in a sea-greene velvet mantle, her sleeves and under roabe of blew tissue, with blew buskins on her feete. About her necke shee wore a chaine of diamonds; the dressing of her head

represented a castle with turrets." She was attended by Religion, trampling beneath her feet Superstition, while on the left side stood Justice trampling upon Oppression, "a person of fierce aspecte in armes, but broken all and scattered."

In the early art-history of any people, as in the childhood of the individual, there is found to be a peculiar susceptibility to, and attraction in, this picture teaching. In the first period of art the rude form of the god or demi-god is either exceedingly vague in the significance implied, or is only saved from this by an accompanying inscription; but very soon, in literature, some distinctive epithet, the "cloud-compelling," or some such other picturesque title, if we may be allowed the term, is connected with the name; while in art some appropriate symbol is added, that serves to convey to the spectators the artist's aim, and stamps the person represented with the needful distinctness and individual character. Hence the eagle of Jove, the trident of Neptune, the jackal of Anubis, the crescent moon of Diana in pagan art, or the keys of St. Peter, the anchor of St. Clement, the spiked wheel of St. Catherine, the lion of St. Jerome, the saw of St. Simon, the gridiron of St. Lawrence, in Christian art.

Parables, fables, proverbs, whether sacred or secular, are all further manifestations of this love of the symbolic, and it is doubtless owing to such picturesqueness of treatment that the "Pilgrim's Progress," the "Holy War," and works of that character, have retained such hold upon their readers, as in all these cases a teaching by pictorial imagery is employed to a marked degree. The following examples of proverbial philosophy—"A cat in mittens catches no mice;" "A rolling stone gathers no moss;" "There is a silver lining to every cloud;" "All is not gold that glitters"—will suffice as illustrations of our meaning.

Symbolism, though ordinarily a convenient and suggestive way of conveying instruction, has at times been employed in a precisely opposite direction, as a veiling of truths that it was not felt desirable on some account too distinctly to proclaim. Thus, among the Egyptians, the priesthood reserved to themselves an inner meaning in many of their rites—a meaning unknown to all but themselves or those specially initiated—and in the same way the early Christians thus also employed forms that, though full of meaning to themselves, had no significance that was apparent to the heathens amongst whom they dwelt; while an illustration more familiar to some of our readers will be seen in those mysterious little cakes that passed from hand to hand throughout India, to the wonder of the Europeans, until the outbreak of the great mutiny threw a sudden and lurid glow of light upon their meaning, and all that it involved.

Symbolism may make itself felt in several ways. There may be symbolism of action, of language, of colour, form, or number. It is in these three latter directions that symbolism is most ordinarily encountered in ornamental art; for though the Moors, for example, delight greatly in religious, poetic, and sententious phrases, and introduce them largely in their ornament, the Cufic letters entwining very ingeniously and happily with the conventional foliage employed, this must be considered an exceptional use, and one that we can better consider in our remarks on inscriptions and writing forms, as an element in design.

Symbolism of action may be seen in the solemn burying of the hatchet and the smoking of the pipe of peace, in the eating of bread and salt, or in the passing of the loving-cup at the banquets of the more civilised. It may be very beautifully seen in the touching custom of the Seneca Indians of North America, where, on the death of a young girl of the tribe, her companions each get, if possible, a young bird, and cherish it till it is strong

enough to fly. It is then taken to the grave of the loved and lost, and with many a kiss and fond caress released, from a belief that it will not stay its flight until in the dim spirit land it has delivered to the departed its load of loving remembrance. We may see it, too, running throughout the rites of the Levitical priesthood, abounding, as these do, in types and shadows, emblems and symbols. We need here only refer to the incident of the scapegoat, a story so familiar that we dwell no longer on it, nor pause to deduce the inner meaning of the act.

Symbolism of language, in addition to its use, as already mentioned, by the Moors, is largely met with amongst various semi-civilised races, and is more especially characteristic of that period in a people's history. The languages of the Indians of North America, and of the New Zealanders, for instance, are largely indebted to these allusions for their force. It is also a very conspicuous feature in the languages of the Eastern races. Biblical examples may very commonly be met with; as in the blessing given to Jacob, "With corn and wine have I sustained him," corn, the source of the staff of life, and wine to make glad the heart of man, being selected as symbolising the general material and temporal prosperity which the expression was meant to convey. Or again, "There shall come forth a rod out of the tree of Jesse, and a branch shall grow out of his roots."

Of the three art-applications, form, colour, and number, the first is decidedly the most important. We shall therefore apply ourselves in the first place to its consideration, reserving for awhile the other and less weighty points; and further at present limiting it, as we have already said, to a consideration of animal form alone.

In Christian art the fish is one of the earliest forms we meet with, being found, and very freely, in the catacombs of Rome. Rome, like many other cities, was built of the stone furnished on its site, the supply of material for many hundreds of years being derived from beneath the surface on which the city actually stood; hence the ground is largely honeycombed with vaults and passages stretching to now unknown distances. These quarries, on their disuse, became the asylum of the early church, a retreat during life, a quiet resting-place at death, for those who escaped the famished lion or the consuming flame. In the persecution under Diocletian several hundreds took refuge here, and being closely pressed were all slain. Stephen, Xystus, and Caius, bishops of the early church, suffered martyrdom here; and here, too, during the persecutions under Nero, Trajan, Domitian, Adrian, Aurelius, Diocletian, Maximinian, and several others, thousands fell, and were buried by their companions on the withdrawal of the Roman soldiers. In niches cut tier above tier in the rocky walls are found the remains of countless numbers of this noble army of martyrs, their resting-places being ordinarily covered with a slab of rock, and on this frequently an inscription or rude symbolic form.

We cannot now presume to positively define the motives that led to the symbolic use of the fish in Christian art. It is curious that the letters of the Greek word for fish are also the initial letters of the words Jesus Christ, the Son of God, the Saviour, while Tertullian, and several others of the early writers, suggest a new train of thought, since they frequently term their converts pisciculi, in allusion to their new life through the waters of baptism. In some instances the fish may have been rudely carved on the slab in token that the deceased was a fisherman or sailor, but as signs that clearly refer to the worldly occupations are few in number, while the fish-form is very abundant, we may, we think, in most cases at least, very reasonably assume that it was employed as a symbol, not in the lower, but in the higher, sense. The crossed fish, shown in Fig. 173, is an

early and good example of the treatment often adopted. In the works of the early illuminators many examples of the use of the fish will be found, in some cases as an accessory, while at other times the flexibility of the creature is taken advantage of in the formation of entire letters: a letter C may be composed entirely of the fish-form, while two in combination are used to form the letter O. Many examples of these grotesque letters may be seen in any good standard work on illumination, or, better still, on consultation of the original MSS. in our national collections, and the rich libraries of our own and continental cathedrals. Though the vesica form based on the fish-form is still used in ecclesiastical architecture, and throughout the English and continental styles of Gothic, the natural representation of the fish disappeared about the fifteenth century, and the cross definitely took its place as the sole and universal symbol of the Christian faith.

The fish was a very favourite symbol of the Egyptians, owing, like the Lotus plant, its importance to its association with the sacred river Nile, the source of the fertility and consequent prosperity of the land. In Fig. 135 we have an example from an ancient Egyptian source, a plate in the museum at Berlin, of the use of both these symbols. Apart from its symbolic import, the design is in itself quaint and pleasing. The reader will notice that though there are apparently three complete fish, one head and one eye are common to them all. Certain species were accounted sacred, the lepidotus, martes, oxyrhinchus, and phagrus, and these it was profanation to touch. The oxyrhinchus is still very commonly met with in the Nile, and is easily recognisable from its long and sharply-pointed head, a feature that readily assists its identification in the bronzes, sculptures, and paintings of the Egyptians. It was one of the symbols of the goddess Athor, who held a parallel place in Egyptian mythology to that of Venus among the Greeks, and several specimens of it have been found embalmed at Thebes. The fish, in its various specific forms, was not only represented in the paintings, but, like the scarabæus, was made into little charms or trinkets, and worn on the person; hence examples are not uncommon, for these little charms, having a religious significance, were frequently placed on the body of the deceased, and are therefore often found on the opening of a place of sepulture.

The great god Dagon of the Philistines was, like the sphinx and many other symbols, of a composite nature, being partly human, partly fish-like. Fig. 193 will enable our readers to form an idea of its character. It is from the deeply interesting series of Assyrian sculptures that we are so fortunate in possessing among the other treasures of our national museum. It will be remembered that it was during a great sacrifice to this idol that the captive Samson was brought forth in mockery; for in the inspired word we read that "The lords of the Philistines gathered them together for to offer a great sacrifice unto Dagon their god, and to rejoice: for they said, Our god hath delivered Samson our enemy into our hand. And when the people saw him, they praised their god: for they said, Our god hath delivered into our hands our enemy, and the destroyer of our country, who multiplied our slain. And it came to pass, when their hearts were merry, that they said, Call for Samson, that he may make us sport" (Judges xvi. 23, 24, 25). It was this Dagon, too, that fell before the captive Ark of God at Ashdod, and was broken in pieces. "Only the fishy part of Dagon was left unto him." We need not quote the story in full. Any who care to follow out the narrative can do so on turning to I Samuel, v. In the case of many composite figures we are able to detect the motive that influenced the combination, some noble attribute of an animal, as the strength and generosity of the lion, being united with the intellect of the man; but we confess ourselves quite unable to suggest what hidden

meaning may have been symbolised to his worshippers by the figure of Dagon, the combination being a most unusual one. The sphinx form is very commonly met with in ancient art, and more especially in Egyptian and Greek work. Our student-readers must bear in mind the marked difference of treatment in the works of these two peoples. With the Greeks the sphinx is always winged, always woman-headed; while with the Egyptians, with one exception, it is never winged nor woman-headed, the head being sometimes that of a man, at others that of an animal; hence archæologists speak of the androsphinx, criosphinx, hieracosphinx, to distinguish these various modifications of the form in Egyptian art. The one exception to the otherwise universal law that regulated the Egyptian form is seen in a woman-headed sphinx sculptured on the throne of Horus, a king of the eighteenth dynasty, but the inscription on it shows that it is intended to represent his royal consort, and thus a very curious and unique deviation of the rule is accounted for.

Among the Greeks and Romans the dolphin, represented in a very conventional way, was accepted as one of the symbols of Neptune, and therefore of maritime power. Fig. 134, an illustration of its use, and of the suppression of natural fact to suit artistic requirements, is from a shield painted on a Greek vase; the original is in the British Museum. Fig. 183 is from a piece of inlay work from a Milanese chimney-piece, while Fig. 200, a still more conventional treatment, is from a piece of Renaissance carving. The artists of the Renaissance not only embodied the main principles of classic art in their compositions, but also freely introduced literal copies of ornamental and other details; hence the constant recurrence of forms essentially heathen in their associations. The dolphin frequently occurs on the various forms of majolica ware.

The serpent, as a symbol of sin, is naturally, from the direct reference to it in the Scriptures, a very early form. In many old illustrations representing the Temptation in Eden it is represented with a human head. In the coins of Constantine, the first Christian Emperor, the sacred monogram surmounts a standard, the whole being placed on a serpent, to symbolise the final victory of Christianity over paganism. It is very remarkable to notice that though the early Christians were disciplined in so severe a school, and with the possibility of a violent death hanging over them continually, a possibly swift release on the spot through death, or the temptations, the taunts, the bribes, the scoffings of the judgment-hall, the lonely death in the darkness of the dungeon, or the passage from life temporal to life eternal, amidst the cries of the thousands who pitilessly thronged the amphitheatre to see the followers of this new religion torn to pieces in the arena by the lions, their lives seem to have been singularly child-like in their faith. They walked as seeing Him who is invisible; spiritual strength triumphed over bodily weakness; to them death had no terror. One inscription commemorates "the sleeping-place of Elpis," while from another we learn that "Porcella sleeps here in peace." We look in vain for any representation of the evil spirit or his kingdom, though in the Middle Ages we find both represented with every accuracy of morbid horror. Hell is generally with the mediævals the yawning mouth of a huge monster breathing smoke and flame, or a large cauldron set on flames, into either of which attendant spirits hurl their victims, and often with a grim touch of humour, and bitterness of satire, we find some of these with kingly crowns, and monks' cowls, and bishops' mitres. It is curious to note that when the Spaniards entered the city of Mexico they found that the doorway of the temple of the god of the air was made like the mouth of a serpent or dragon, painted, to quote one of their chronicles, "with foule and devilish gestures, with great gums and teeth wrought, which was a thing to feare those that should enter in thereat, and especially the Christians, unto whom it represented very hell, with that ugly face and those monstrous teeth."

Reptile forms seem to exercise a peculiar fascination. The tortoise, lizard, and crocodile are in some countries objects of worship as incarnations of Deity. It is a tortoise, our readers will remember, that, according to Hindu belief, sustains our world, though what sustains the tortoise has never we believe been satisfactorily settled; while the serpent in almost every country is an object of dread, a creature to be propitiated, and in the early period of most nations an object of worship. It is an especially common form in ancient Mexican and Egyptian art. In Figs. 174, 178, 179, 180, 181, we have a series of examples from old Mexican MSS. The first of these may possibly represent the expulsion of the evil principle from heaven, or the erratic course of a comet through the starry firmament into space and the outer darkness. Both explanations have occurred to our own mind, and as, owing to our ignorance of the language in which the accompanying inscriptions are given, the whole matter is purely one of conjecture, we content ourselves with offering our readers both suggestions, leaving them to favour one or the other, or to develop fresh ones in explanation of the enigma. The asp, sacred to Ranno and Neph, and the horned snake, Fig. 172, supposed to have been dedicated to Amun, are both frequently represented in Egyptian art, and embalmed specimens are deposited in the tombs of Thebes. Fig. 188, curiously like Fig. 181, the Mexican treatment, is from an Egyptian papyrus in the British Museum. We have in Fig. 198 an Egyptian illustration not merely of the serpent but of its worship.

The Jews, ever prone to fall into idolatry, at one time made an image of a calf, a form that was no doubt suggested to them by the Apis worship that had grown familiar to their eyes in Egypt, and we afterwards find them worshipping the serpent. It will be remembered that the Israelites, giving utterance to seditious murmurings at the place called afterwards Zalmona, *i.e.*, the place of the image, were assailed by fiery serpents, and that Jehovah, at the prayer of the people, instructed Moses to make a serpent of brass for the deliverance of the people, as narrated in the Book of Numbers, chap. xxi. This memorial of their wonderful deliverance, at first preserved with religious care as a monument of God's goodness, became ultimately itself an object of adoration, until Hezekiah, purifying the nation of the idolatry into which it had for a long time sank, "removed the high places, and brake the images, and cut down the groves, and brake in pieces the brazen serpent that Moses had made: for unto those days the children of Israel did burn incense to it; and he called it Nehushtan," a contemptuous name, signifying a "piece of brass," in order to show that having fulfilled its providential purpose it possessed no inherent sanctity.

Insect forms appear but little in symbolic art. The most conspicuous instance is found in the constant recurrence of the scarabæus, or sacred beetle, in Egypt. It was dedicated to the sun and to Pthah. Numerous examples of it will be found in any good museum in the scope of which archæology at all enters; as, besides being sculptured or painted in mural decoration or papyri, as in Fig. 221, it was largely worn as a charm, little figures of it being made in metal or glazed earthenware, and these are found, like the small fish symbols, already referred to, in great abundance in the tombs. The scarabæus is often placed on the breast of the mummy, or on the inclosing cartonage, an emblem of the protection of Deity. The common watchman, or dor-beetle, the Geotrupes stercorarius of naturalists, the "shard-borne" beetle of the poet, is very similar both in appearance and instincts to the sacred beetle of the ancient Egyptians.

The butterfly is but rarely seen in early work, for though the Greek word for the butterfly and the spirit of life is the same—psyche—yet, owing to the imperfect idea of all pre-Christian races, except the Jews, as to the immortality of the soul, much of the force of the symbol was in those early days lost; while in even later times, owing to a want of study of the lower forms of nature, the analogy between the spirit of life and the butterfly—first appearing as a creeping toiling caterpillar, its span of existence apparently over, burying itself in the earth a seemingly lifeless chrysalis, finally at the appointed season soaring above its tomb into the sunlight, the perfect insect—was not perceived; as throughout the Middle Ages little attention, worthy the name, was paid to the study of natural history, and the few grains of truth acquired were lost amidst the mass of error, "travellers' tales," and old wives' fables. In some few examples, however, of Greek art, the butterfly is represented as hovering over the dead. The fabled Phœnix rising from its ashes is another symbol of the resurrection of the dead, found from time to time throughout the whole range of mediæval art.

The dragon, another fabulous monster, like the hydra, represents the principle of evil; hence dragon-slaying is, in mythical story, the hero's task, a labour of Hercules, the task of Perseus, the chivalrous duty of St. George. In some old representations of the Tempter he is shown as a winged serpent, or dragon, resting on the shoulder of a man, or hovering by him, and whispering suggestions of evil in his ear. In China the dragon is the symbol of the imperial power, and Chinese art abounds with representations of dragon-forms, grotesquely, morbidly horrible. Many examples may be seen in the ceramic ware and bronzes fabricated by the Celestials, and preserved in the South Kensington and other collections.

Passing now to bird-forms, we find among the Egyptians several species held sacred. Of these the ibis occupies the highest place, being dedicated to Thoth. Numerous embalmed specimens have been found at Memphis, Thebes, and Hermopolis: some of these may now be seen in the British Museum. It is often represented on the sculptures and paintings. The goose, Fig. 172, was sacred to Seb. The hawk and vulture, Fig. 172, were sacred to Re and other deities. The vulture (called by the Arabs nissr) was also the symbol of Nisroch, one of greater deities of the Assyrians. Our readers will remember that it was while worshipping before the altar of Nisroch, his god, that Sennacherib, one of the greatest of the Assyrian monarchs, was slain by his sons. A representation of the figure is seen in our 201st illustration, derived from the Nineveh slabs now preserved in the British Museum.

The owl, whose silence and solemnity of expression have been taken as tokens of the possession of a considerable depth of thought, has thus, like some other bipeds, cheaply gained great credit for wisdom, and as such is the symbol of Minerva or Pallas, the goddess of learning and culture. The Greeks worshipped her under the name of Athene, named their chief city in her honour, and erected the Parthenon for her service. Parthenos is the Greek for maiden, hence the word Parthenon literally means the Temple of the Virgin. We have in Fig. 170 a representation of the owl from a Greek coin; the olive introduced is another symbol of the goddess. The treatment is decidedly archaic. In Tartary, according to Pennant, the owl is equally honoured, though for another reason. The Mongols and natives almost pay it divine honours, because they attribute to this bird the preservation of the founder of their empire, Genghis-Khan. That prince, with his small army, happened to be surprised and put to flight by his enemies,

and forced to conceal himself in a small coppice. An owl settled on the bush beneath which he was hid, and his pursuers therefore did not search there. From henceforth, like the geese whose cackling saved Rome, the bird was held to be sacred, and plumes of its feathers were worn by the higher nobles. To this day the Kalmucks continue the sumptuary custom on all great festivals, and some tribes have an idol in form of an owl.

The cock is one of the earliest Christian symbols; if associated with any representation of the denial of Christ by St. Peter, it signifies repentance, since the crowing of the bird recalled to the apostle the words of his Master, and his own time-serving, and base denial of Him, for whom he had beforetime expressed his willingness to die. It is at other times employed as a symbol of vigilance. We are all familiar with its use even at the present day, crowning as it so often does our church spires, an application, however, of it that has very considerably modified the ideas connected with it, since a particularly fitful and changeable disposition, to one thing constant never, will often provoke a comparison between it and the veering of the weather-cock, turned and twisted by every wind that blows. White and saffron-coloured cocks were sacrificed by the Egyptians to Anubis.

The dove is a very common symbol throughout the whole range of Christian art. The Holy Spirit is expressly likened to a dove in several passages of the Bible; while in a secondary sense it is accepted as a symbol of all believers. "Be ye wise as serpents, harmless as doves." The dove orchid, the Peristeria elata of botanists, and of which a figure may be seen in vol. lviii. of the "Botanical Magazine," is, from its resemblance to the bird from which it is named, both in its English and scientific appellations, an object of superstitious dread and worship in tropical America, its native land. It is there known as the "Flor del Espiritu Santo," or the flower of the Holy Spirit. The dove is more particularly met with in work executed under Byzantine influence; it is also sometimes introduced, from its association with the subsiding deluge, bearing the olive-branch as a symbol of peace and reconciliation; the raven then being frequently at the same time introduced as an emblem of wandering and unrest. The raven, like the magpie, has long been deemed by the superstitious a bird of ill-omen; in one of the very early representations of the temptation in Eden, the painter has, with this idea evidently in his mind, represented a magpie perching upon the branches of the tree that bears the forbidden fruit. The raven was very appropriately chosen as the standard of the fierce predaceous Vikings whose wanderings and ravages form a page of our own island story.

The peacock, like the dove, is a very favourite form in Byzantine art; though now thought of rather as an emblem of pride, it was at an earlier time regarded as a symbol of the Resurrection; hence it is generally represented as standing on a small globe or ball, the glorified spirit rising above all mundane cares. Several good examples of it may be seen in carvings and inlay at Venice and elsewhere.

Among bird-forms none is so familiar to us in its association with mediæval art, an art essentially religious, as the pelican. This bird has a crimson spot at the end of the bill; hence, when pluming herself it appears like a small spot of blood on the breast, and thus arose the old belief that the pelican nourished her young at the expense of her own life. The pelican therefore was considered an apt symbol of the atonement on Calvary, and, as such, is largely introduced in ecclesiastical art, and more especially on vessels in any way identified with the Communion service. The lectern used to support the books, though generally, if a bird form at all, in the form of an eagle, is occasionally in that of a pelican.

There is a very fine one at Norwich, and in an old catalogue of the church furniture at Durham another is mentioned. Dante, in his "Paradise," speaks of our Saviour as "Nostro pellicano." Fig. 139 is an example of its use in art, taken from some mediæval stained glass now in the South Kensington Museum. By the writers of the Old Testament the pelican is always regarded as a bird of solitude and ill-omen, a symbol of desolation and ruin; thus, in one of the Psalms, David, in speaking of his troubles, says of himself, "I am like a pelican of the wilderness, I am like an owl of the desert," and Zephaniah says, speaking of the downfall of Assyria and the destruction of the capital city, Nineveh, that "both the pelican and the bittern shall lodge in the upper lintels of it; their voice shall sing in the windows; desolation shall be in the thresholds." The pelican was one of the unclean birds of the Mosaic law.

The eagle, the king of birds, has little, if any, connection with Christian art, except, as we shall see presently, in one marked particular; but is frequently introduced in the various periods of art in which heraldic devices form any feature. As the bird of Jove, it was chosen by the Romans as a symbol of their power; it appears largely on their coinage, and was borne on their standards, or "eagles," as they were on this account termed. The eagle, as in our illustration, Fig. 162, ordinarily bears the thunderbolt, another symbol of Jove. The French, Austrians, Prussians, Russians, and Americans have all adopted the eagle as a national symbol, some treatments of it, as the French and American, being naturalistic; others so far conventionalised as to justify its being, like the Russian bird, double-headed. Fig. 162, a fairly naturalistic example, is taken from one of the mosaics in the Church of St. Louis des Invalides, in the crypt of which repose, according to his wish,\* the ashes of the first Napoleon. Fig. 199, a highly conventional treatment, is from some Swiss glass, dating 1618, preserved in the magnificent art collections at South Kensington.

A familiar little bird symbol amongst ourselves is seen in the constant association of the robin with Christmas; for as surely as the year draws to its close, the familiar emblem figures on cards, magazine covers, et hoc genus omne, as a sign and a reminder that Yuletide is rapidly approaching.

Among the higher animals fewer examples of symbolic use occur than we should, judging by their diversity of disposition, have supposed; for while in popular estimation the pig not unworthily represents gluttony; the ass, stupidity; the fox, craft; the dog, fidelity; and the horse, strength; but little use is made in ornamental art of several of these; though many of our readers will no doubt be able to recall isolated examples, as in the case of the dog at the feet of the effigy of many a Crusader in our cathedrals and old abbeychurches. Mummies of the dog are frequently met with in Upper Egypt; it was one of the animals dedicated to Anubis. We may mention in passing that the dog was one of the unclean animals of the Jews; and though, owing to their great value as scavengers, they are tolerated in Eastern towns, there is a strong prejudice against them, any contact with them being a defilement. The Mohammedans have a similar feeling, based upon several passages of the Koran—as, for instance, that whosoever keeps a dog, except for the protection of his cattle, for hunting, or for guarding his corn-fields, will in the future life suffer diminution of his reward; while in another place the prophet affirms that angels will not enter a household wherein there is a dog.

<sup>\* &</sup>quot;Je désire que mes cendres reposent sur les bords de la Seine, au milieu de ce peuple Français que j'ai tant aımé." The inscription over the entrance to the tomb.

The stag is a favourite symbol in early Christian art, the allusion no doubt being to the passage, "Like as the hart panteth after the water-brooks, so panteth my soul after Thee, O God!" It is in classic art associated with Diana, the goddess of hunting. In Fig. 166 we have a representation of it from an early Greek coin.

The wolf—rarely met with in Christian art, and then always, like the fox, as an emblem of cruelty and craft—was by the Romans esteemed as the foster-mother of the founders of their nation; hence, in allusion to this legend, the wolf is a not uncommon symbol in Roman art. A very curious bronze is still preserved in the museum on the Capitoline Hill; the whole treatment of the animal is very archaic in style, and it is on good grounds believed to be the animal mentioned by Cicero as standing in the capitol, and even in his time a national relic of the greatest interest. We read that great alarm was once caused owing to the figure being struck by lightning—and the left hind leg still bears the mark of the injury—as it was regarded as a sign of the displeasure of the gods: showing thus the reverence that the figure was held in as a symbol of the Roman state. It is noteworthy that some of our Saxon coins bear the same device—a wolf suckling two children—probably

merely an adaptation of the Roman symbol.

Among the Egyptians the bull Apis was worshipped as a deity and the type of great Osiris, judge of the living and the dead—a name so sacred to them that it was rarely expressly mentioned; and there was no more binding and solemn oath than "By him who sleeps in Philæ"-an island of the Nile that was supposed in an especial degree to be his resting-place. The sacred bull was tended by the priests at Memphis. At his death he was solemnly embalmed-numerous mummified remains are preserved in the British Museum -and great rejoicings throughout the land greeted his successor, the visible image and incarnation of their deity. He was consulted on all important occasions as an oracle, and omens were drawn from his actions. If he took food from the hand of the inquirer it was held to be a favourable omen; if not, the reverse; or the person seeking a sign would whisper in his ear the matter on which he desired counsel, and then, closing his ears till beyond the temple gates, he listened to the first expression he heard uttered by any person, and drew from it as best he might the desired reply to his question. The sacred bull is a symbol, therefore, that naturally occurs very commonly throughout Egyptian art. It is represented in Fig. 172; all the animals therein figured being taken from examples from the tombs at Thebes. The Hindoos pay a very similar veneration to the bull, considering it to be sacred to Bramah. As one of the sacred animals passes along the bazaar all make way for him with great respect; and should he stop and help himself to any of the fruits or vegetables exposed for sale, the fortunate proprietor feels duly gratified at so signal a mark of his favour. The jackal, Fig. 172, was sacred to Anubis, the Mercury of Egyptian mythology. The cat, dedicated to Pasht, or Diana, is a very common symbol; many human, but cat-headed, figures of Pasht may be seen in the British Museum. The death of the cat of the house was a sufficient cause for general mourning. It was trained to take the place of the dog, not merely in the household, but even in the chase. Paintings from Thebes, now in the British Museum, represent the cat acting as a retriever, bringing to the sportsman, from amidst the reeds, the wild fowl that have been brought down by means of sticks thrown at them. The ape was sacred to Thoth; hence it is frequently represented on papyri, &c.; while the cow was the symbol of Athor, a goddess holding in Egyptian mythology a very similar position to that of Venus in the beliefs of the Greeks and Romans. The lion was sacred to Gom or Hercules. Death was the only

penalty that, according to the Egyptian code, at all met the enormity of killing any of the animals; and during the occupation of Egypt by the Romans some hundreds of the conquerors were slain in a popular tumult, one of the legionaries having killed a cat. The hippopotamus, Fig. 182, a little figure from the Museum of Economic Geology, London, the pig, and ass, were symbolic of Typho, the evil spirit.

In Christian art the lion is employed as an emblem of strength, majesty, and fortitude; or, in an evil sense, as referring to him who "walketh about as a roaring lion, seeking whom he may devour." It is sometimes used as a symbol of the second person of the Trinity, in allusion to such passages as "the Lion of the tribe of Judah hath conquered." The great use, however, of the lion in religious art is as the symbol of St. Mark; the angel, the lion, the ox, and the eagle being the four forms especially devoted to the four Evangelists, and in the order mentioned: thus, St. Matthew has the angel; St. Luke, the ox; St. John, the eagle.

As some of our readers may, on commencing these studies, find a certain difficulty in remembering the appropriate symbol of each person, they will find the following mechanical aid to memory very useful:—If the word aloe be taken, it will be found to be composed of the initial letters of the four symbols, angel, lion, ox, eagle, and in their proper order for Matthew, Mark, Luke, and John. This key-word will at once solve any further difficulty. These four figures, the man or angel, the lion, ox, and eagle, are in a marked degree common to almost all early periods of art. Thus, in Egypt, we find the sphinx human, and hawk or eagle-head, or leonine in character; while in the Assyrian remains we are confronted by bulls or lions with human heads, or figures in human form, but with the wings and heads of eagles. The four creatures seen in the wonderful vision of the prophet Ezekiel were of this nature, for he expressly says in his description that they were similar to those he had seen while a captive by the river Chebar-a river of Assyria that runs into the Euphrates about two hundred miles north of Babylon-whither he and the great bulk of his nation were carried by the Assyrian king Shalmaneser, 721 years before the Christian era: the Assyrian sculptures, therefore, must have been familiar in appearance to him and to those to whom he was sent to prophesy. In the Apocalyptic vision, seen by St. John at Patmos, of the mysterious creatures adoring ceaselessly before the throne, the first we read was like a calf, the second like a lion, the third creature had a face as a man, and the fourth was as a flying eagle. Probably it was upon these two passages of Scripture that the Evangelistic symbols were based. St. Jerome and St. Ambrose assert in their writings that these four creatures represent, through the Evangelists, our Lord under four aspects. Wyckliffe, in his translation of the New Testament published in 1380, refers to the beliefs of both these older writers. His English is almost too quaint for direct quotation, but the substance of it is that Matthew is represented as a man or angel, inasmuch as he dwells chiefly, in his gospel, upon the manhood of Christ; Mark is represented as the lion, as he treats most fully of His rising again; Luke is represented as the ox, writing as he does more especially concerning the sacrifice and the priesthood; while John is the eagle, as he passes in his writings over many of the little details given by the other Evangelists, and dwells most lovingly on the Sacrament and holy mysteries. Another theory on which he touches slightly differs from this, as it sees in the life of our Saviour himself four great incidents which the forms symbolise—the man referring to His human birth, the sacrificial ox to His death on the Cross, the lion to His resurrection, and the eagle to His ascension into heaven.

In the Cathedral of Messina is a very large lectern, having a central stem surmounted by the pelican, and four lateral arms, each terminating in an evangelistic symbol, upon which the books rest, so that each gospel is read from its appropriate place. This lectern is well figured in Sir Digby Wyatt's book on metal-work. We need give no other examples, as instances are so numerous that very slight research will suffice to discover numerous illustrations. In early work the animals stand alone, an inscribed book or scroll being occasionally added; in later times the Evangelists are represented as men, each being accompanied by the appropriate symbol.

The human form, under various grotesque modifications, is frequently introduced in

Gothic work. Our 194th illustration-

"A hugye giaunt stiffe and starke,
All foule of limbe and lere;
Two goggl ng eyen like farden,
A mouth from eare to eare—"

is a very fair example of this Middle Age spirit. In some cases probably these figures are symbolic of evil passions: in others, satirical; in some, no doubt merely grotesque and

quaint from play of fancy, and having no ulterior and hidden meaning.

The human form was sometimes employed in a sense half symbolic, half historic; such as in rude sculpture, sometimes met with in early work, of such a subject as the finding of Moses amidst the reeds of the Nile, where the idea of baptism was intended to be brought out, as well as the historic fact; so, too, with the crossing of the Red Sea by the Israelites—primarily, the historic fact; secondarily, the chosen people of God of all ages and peoples entering, through baptism, the Land of Promise. These subjects, and many others thus treated, are to be met with in the catacombs we have already so frequently had occasion to refer to. In the church at Adijerat, in Abyssinia, the painting of the crossing of the Red Sea is noticeable not only as an interesting link between the Eastern and Western Churches, but also on account of its treatment, as the principal characters are made much larger in size than the subordinate actors in the scene—a very common feature in early art, and more especially noticeable in Egyptian, Assyrian, Hindoo, and Mexican work. The rank and file of Pharaoh's army are armed with muskets of the muzzle-loader or "Brown Bess" pattern.

We occasionally, and more especially on the continent, meet with two curious figures representing the Jewish and the Christian Churches. The Jewish is represented as blinded, a veil being over her eyes: in one hand she bears the tables of the law, in the other a drooping banner on a broken staff. The other figure wears the crown, holding in one hand a chalice, the pledge of communion with her Lord, and in the other the once despised cross, the symbol of her faith and power. Good examples of these figures may be seen at Strasburg Cathedral.

In mediæval work the soul of man is represented either in human or angelic form; generally as a little naked child issuing from the mouth of the dying person—"Naked came I into the world, and naked shall I return again;" sometimes draped—"Clothed upon with the robe and righteousness of God;" sometimes issuing as a little black imp or fiend. In most cases good and bad angels stand by to receive it and to contest its possession.

The second person of the Trinity is frequently represented as a lamb, in allusion to such passages as "He is brought as a lamb to the slaughter;" or, "Behold the Lamb of God." The symbol is known as the Agnus Dei. The Holy Spirit, as we have seen, is

symbolised by the dove; while the first person of the Trinity is rarely represented. In early MSS., &c., the eye or the arm of the Lord are sometimes shown amidst the clouds that veil the brightness of the Divine Majesty. Many passages of Scripture refer to these, and they are therefore often made use of as symbols. The frequent allusions in the Old Testament to the hand and the arm of the Lord as the instrument of His sovereign power—such as, "His right hand and His holy arm have gotten Him the victory;" or of His might in creation, as, "Thy hands have made me and fashioned me;" of His goodness to the creatures He has made, "Thou openest Thy hands, they are filled with good;" and of His justice, "The works of His hand are verity and judgment"—are sufficient to show the wideness of the scope in which such a symbol could be used, and thus clearly to account for its very frequent recurrence. During the first eleven centuries these were the only symbols employed; later, a head, or the entire figure, was shown, but with not nearly so grand and impressive an effect as that produced on the mind by the more reverential treatment of the subject.

Byzantine art, essentially symbolic in its nature, affords in its mosaics for mural decoration many excellent and instructive illustrations. Numerous beautiful examples of mosaic may be seen in St. Mark's, Venice, and other Italian churches, and it is to this day employed in the adornment of the churches of the Greek faith throughout Russia; the semicircular apse at the end of the building, and the domes and pointed roofs so characteristic of Byzantine architecture, being covered with figures of the Deity, of angels and archangels, saints and prophets, confessors and martyrs. Christ and His followers are never represented as militant and sorrowing; the former things have passed away-the eternal glory of Christ and of His chosen ones is alone represented. He is no more the homeless wanderer, the reviled, the crucified, but the Christ we read of in the grand language of the Apocalypse, whose voice is as the sound of many waters, and His countenance as the sun shining in his strength. "I am He that liveth and was dead, and behold I am alive for evermore." The effect of these mosaics, their brilliancy partly subdued by the dim light and the dust and stain of time, is very grand. How far such, with their accompanying elaborate ritual, impressive architecture, and noble music, are in accordance with man's religious obligations—whether the simple building, unadorned in any way, is best adapted to pure worship, or that where men have freely given their noblest and best to adorn His sanctuary—is a question which, weighty as it is, we do not here and now feel called upon to decide either for ourselves or our readers-Wherever the Byzantine influence has made itself felt, the figures are introduced with great rigidity of position, and frequently attenuated to a degree out of all due proportion. It is curious that, throughout the art of Christian mosaic, the profile or side view of the face is, so far as we are aware, never shown: the subject of the mosaic is always represented as directly facing the spectator. In Assyrian and Egyptian art, with some few exceptions, the direct reverse is seen.

For nearly a thousand years, from the fourth century after Christ till the revival of tempera painting in the schools of Cimabue and Giotto, mosaic was almost exclusively employed for wall decorations, and during at least four centuries—namely, from the fifth to the ninth—entirely superseded all other methods. But for these mosaics, therefore, the course of pictorial art would have been broken; and though for their own inherent merits the loss would in many cases have been but small, as the execution was frequently coarse, and the subjects ill-drawn, yet, as links in the long chain of art, and as illustrations of the beliefs, doctrinal and legendary, of the early ages of the Christian Church, they possess an extreme value akin to that

of the touching memorials of the primitive Christians which, as we have seen, cover the walls of the long subterranean galleries of ancient Rome. In Western art the figures were generally on a white or blue ground; in Eastern, on a ground of gold. In the thirteenth century many whose names are famous as those of great painters worked also in mosaic; thus, Cimabue, primarily an artist in the more familiar sense of the word, directed the execution of a mosaic at Pisa; Giotto also, and many other celebrated Florentines, practised this branch of art. The workers in mosaic could not, however, compete with the great masters of frescopainting, and having served its purpose well in the past, mosaic gave place to the new art; though it was still employed by the successive popes in the decoration of St. Peter's, as we may in these latter days see its revival amongst ourselves in our own metropolitan cathedral.

In the seventeenth century thin slips of enamel of various forms and sizes were introduced, and from the wonderful variety of colour then accessible to the artist, and the minuteness of the fragments employed, mosaic again rose into favour, and was brought to great excellence. It was then employed to render an important service to art, in the reproduction of the celebrated works of the great artists of the past, the finest pictures in the Vatican—many of them fading from the effects of time—being copied in mosaic for the Cathedral of St. Peter. Such reproductions, though naturally inferior to the original works, since they fail to render the handling of the masters, give some fair idea of their colouring, and are valuable as giving the composition. In this way frescoes of Raphaelle, Da Vinci, and other great masters, which were decaying through the dampness of the walls upon which they were painted, have been translated into a material which no length of time will have power to affect, and which may, so long as the fabric endures within which it is placed, be deemed imperishable; but, as may easily be credited, the labour and expenditure of time and money have been tremendous, some of the more elaborate subjects thus reproduced having been in hand eighteen to twenty years.

We would, in concluding this branch of our subject, warmly advise the student who reads our remarks not to rest satisfied with the little that we have here been able to set before him, but to carry his investigations very considerably further than the necessary limits imposed on our pleasant labours will here allow. Many excellent books—as, for instance, those of Jameson and Twining—are published on the subject, and these the novice will do well to consult; but above all, let him by personal investigation and research, note-book in hand, find examples for himself; he will find a feeling of reality attaching to these that no book illustration will be able to afford. Some good evangelistic symbols occur on stained glass in the South Kensington Museum. The National Gallery is a valuable storehouse of examples; so, too, the magnificent collection of MSS. in the British Museum, while, for pursuing the subject amongst the remains of an earlier period, the Egyptian, Assyrian, and Greek collections in the national collection afford equally ample facilities.

## CHAPTER III.

Too strained a meaning must not be attached to any Symbolic Form, Colour, or Number-Examples from Clement, Cyril, and Durandus, of Forced Inner Meanings-Symbolism of Colour-Gold and Silver-The Arms of Jerusalem-Symbolic Poetry of Spenser-The Rigidity of the Laws Binding the Egyptian Artists-Symbolism of Numbers, Three, Four, Six, Eight, Twelve-Seven, the Number of Perfection-Forty, the Biblical Number of Trial or Probation-The Use of Symbolic Numbers amongst the Chinese-The Temples of Heaven and Earth at Pekin-The Yang and Yin Principles-Symbolism derived from Vegetable Forms—Scriptural Use of Plants as Illustrations—The Palm—The Coinage of the Jewish Nation—Judea typified by Female Figure beneath Palm Tree-The Vine-A Symbol of the Israelites-Christ the Vine-The Vine in Byzantine Art-Byzantium as the Capital of the Roman Empire-The Chair of St. Maximinian-The Vine in Classic Art-The White Lily-The Snowdrop-The Almond-The Pomegranate-The Passion Flower-The Lotus-Confusion between the Egyptian Lotus and the Indian Water-Bean-Symbolic Plants amongst the Assyrians-The Tree of Life-The Idolatrous Groves of Israel-The Tooba Tree-The Amaranth-The Rose-Classic and Christian Legends-The Rose of Sharon-The Golden Rose-The Rose of Heaven-The Heraldic Use of the Rose, Thistle, and Shamrock-The Tudor Rose-The Broom of the Plantagenets-The Columbine-The Daisy-Badges of the Scottish Clans-Fungi-Representations of Earth, Air, Fire, and Water-The Planets, Symbols of the Classic Divinities—Fire Worship—Passion Symbols—The Cross—The Numbus—Cause of the Similarity of all the Portraits of Our Lord-The Vesica Form-The Anchor-The Lamp-The Crown or Wreath-Symbols of the Saints.

RESUMING our notice of some of the leading features of symbolic art, we propose in the present chapter to refer more especially, in the first place, to the use made of special numbers or colours; secondly, to the employment of various plant forms; afterwards concluding our remarks on the subject by a reference to those more arbitrary forms that—as the cross, the monogram, or the symbols of the Passion—have no direct connection with any natural forms, but are nevertheless so important in themselves that their omission would seriously impair the practical value that it is our strong desire to impart to these papers.

Before definitely proceeding to take up the various features that, point by point, must engage our attention, it may perhaps be well to warn our readers against attaching too strained a meaning to any form, colour, or number. Such symbolic treatments, granting reasonable knowledge in the persons to whom they are intended to appeal, should readily convey their meaning; but any idea that is so deep that nine persons out of ten fail to comprehend it, or which from its vagueness may be read, according to various fancies, in many diverse ways, may be profound, or quaint, or picturesque in treatment, but it fails in one very essential point-simplicity and directness of application. In mediæval times more especially there was a straining after hidden meanings—a forcing beyond due measure of all reasonable analogy-alike in sculptural, pictorial, and literary art, resulting, probably, in most cases, from a morbid asceticism of the cloister, lacking the healthy discipline of contact with the great world that stretched beyond the monastery-gate. Many examples of this perversion of thought might be here given. We need, however, but cite one or two examples in illustration of our remarks: thus, Clement, one of the early fathers of the Church, taught that the five barley-loaves with which our Saviour fed the multitude were in reality the five senses; that they were fed not in a material sense at all, but spiritually, through seeing Christ's miracles and hearing His precepts; while Cyril, no less disregarding the plain letter of the narrative, taught that these five barley-loaves were the five books of Moses. The writings

of Cyril abound with illustrations of this subordination of the literal and historic reading to a desire to see mystic and allegorical significance. As one more example, and this time from the Middle Ages, we would quote a short passage from a book by Bishop Durandus, who died A.D. 1296. The book is in great part devoted to an explanation of the subtle meanings that he avers are to be found running throughout the fabric of the Church, using the term in its most literal sense. Every little thing, even to the composition of the mortar, is here made of extreme importance. Of this we need give but one instance, the bell-rope, a useful but unobtrusive piece of church furniture which hitherto, we are persuaded, has been to our readers but a convenient means of ringing the bell that summons the congregation to the church service. The old monk, however, sitting in the twilight of the abbey belfry, sees much more in it than this. To him "the hanging rope by which the bell is pulled is humility, or the life of the preacher; the same rope also showeth us the measure of our own life. Besides this, since the rope hath its beginning from the word upon which the bell hangeth, by which is to be understood the cross (a point which, to his own satisfaction, at least, he had proved in a preceding chapter), it doth thus rightly typify Holy Scripture, which doth flow down from the word of the Holy Cross. As also the rope is composed of three strands, so doth the Holy Scripture consist of a trinity—namely, of history, allegory, and morality. Again, the rope reacheth unto the hands by which it is grasped, because Scripture ought to proceed unto good works. Also, the raising and lowering of the rope in ringing doth denote that Holy Scripture speaketh sometimes of high matters, sometimes of low; or that the preacher speaketh sometimes lofty things for the sake of some, and sometimes condescendeth for the sake of others. Again, the priest draweth the rope downwards when he, from contemplation, descendeth into active life, but is himself drawn upwards when, under the teaching of Scripture he is raised in contemplation." The works of Durandus have been translated into English from the quaint monkish Latin of the original; they are therefore accessible to any of our readers who may care to see to what lengths a morbid and unhealthy state of imagination can travel. True symbol, in expressing great truths, must, while pleasantly stimulating the mind and the imaginative faculties, in achieving this aim speak a language not unreadily to be comprehended, or it misses its mark, and has no longer a reason for its existence.

We turn now our attention to a brief investigation of the use of colour in a symbolic sense. A given colour, it must, however, be premised, may be used in either a good or a bad sense, according to the subject represented. We cannot, therefore, assign any positive meaning to it unless we also take into consideration the circumstances under which we meet with it. In old Gothic work, yellow signified love and wisdom. The Moors by golden yellow understood wise and good counsel; by pale yellow, deceit and fraud. In France, during the reign of Francis I., A.D. 1515, the doors of traitors and felons were daubed yellow. In Spain the dresses of the state executioners were red and yellow-yellow to indicate the treason, and red its punishment. Judas, thief and traitor, in old glass painting and illumination is generally known by his soiled yellow robes; and at the establishment of the Inquisition under Ferdinand and Isabella, the victims were brought out to die clad in long, coarse woollen robes dyed yellow, and stamped over in red with crosses and waving flames. Yellow and white, when represented by gold or silver, the precious metals, are always employed in a good and honourable sense. Thus the Jews, in making themselves a molten image in similitude of a calf—a thing in itself abominable—nevertheless, seeing that it was to be to them as a god, made it of solid gold; while the golden image of Nebuchadnezzar affords a very parallel case, since he probably erected it as a symbol of the glory and

power of his kingdom, and in impious defiance of the vision wherein he saw a man having a head of gold, breast and arms of silver, thighs of brass, and legs of iron; the golden head being interpreted to mean the present glory of his kingdom, so soon to be followed by the sway of the Medes—as typified by the silver breast and arms—while these, again, must in turn give way to the Macedonians, and in the end the land would pass beneath the iron sway of Rome. Gold and silver are frequently mentioned in the Bible in enhancement of honour: thus the first-fruits of the people of Israel were offered at the temple in baskets of silver; while in another place we read that a word fitly spoken is like apples of gold in a basket of silver. The Psalmist, speaking of Jerusalem, says: "Yet shall ye be as the wings of a dove covered with silver, and her feathers with yellow gold." It is curious to notice that though in heraldry it is a fixed rule that metal shall never be blazoned on metal, nor colour on colour, an exception was made when, after the capture of Jerusalem by the Crusaders, it was thought necessary to assign arms to it, these arms being five golden crosses on a field of silver. The following passages, if studied with the context, will be found to be further illustrations; and the reader may easily increase them very largely in number for himself, if he cares to do so:—" The words of the Lord are pure words: as silver tried in a furnace of earth, purified seven times" (Psalm xii. 6). "We will make thee borders of gold with studs of silver" (Song of Sol. i. 11). "I counsel thee to buy of me gold tried in the fire, that thou mayest be rich" (Rev. iii. 18).

White has in every age been accepted as the symbol of purity, holiness, and innocence. In Egypt the great divinity Osiris, the judge of the living and the dead, wore a white coronet, and the priests, when engaged in his service, wore robes of white. In Greece the priests of Jupiter were robed in white; so, too, the Vestal Virgins, the Brahmins of India, and the Druids of our own early national history. In the Bible we read many passages that confirm and carry forward the same idea; the sins that are as scarlet that shall be made white as the snow; and the great army that no man can number, of every people and tongue and nation, standing before the eternal throne, and clothed in spotless white. In the early ages of the Christian Church the rite of baptism was ordinarily administered either on Easter Day or Whit Sunday-the day on which the apostles commenced their public ministry by the baptism of three thousand converts to the faith. As symbolic of the spiritual purity involved in the rite, those who received it were clothed in white. It has hence been conjectured, and with great probability, that the term Whit Sunday is really only a modification of White Sunday, though according to some writers the word is derived from the Saxon witte, or wisdom—referring to the gifts of the Holy Spirit that descended on the apostles on the Day of Pentecost. In Roman Catholic countries, the little delicate snowdrop, as a symbol of purity, is often employed to deck the altars of the virgin-mother of Christ. In the "Faery Queene" of Spenser Faith is thus allegorically portrayed:-

"She was arrayed all in lily white,
And in her right hand bore a cup of gold,
With wine and water filled up to the height,
In which a serpent did himself enfold,
That horror made to all that did behold;
But she no whit did change her constant mood."

We have given the passage at some little length as, in addition to the point we more especially desired to bring forward, a further symbolic meaning may be seen, in the introduction of the serpent in the golden cup—an emblem of that dire perplexity and mystery of

iniquity, the presence of sin in even the holiest duties—but which fails, as we may see in the last line, to be a terror, or to shake the constancy of Faith. White, in a bad sense, is the symbol of a craven fear—arising, probably, from the blanched cheek that indicates in any peril the fainting spirit. We see this application of the idea in the familiar expression "showing the white feather."

Red, as applied to spiritual virtues, signified an ardent love, a burning zeal for the faith; in mundane virtues, energy and courage; in an evil sense, cruelty and blood-guiltiness—

"And lo! the universal air

Seemed lit with ghastly flame—

Ten thousand thousand dreadful eyes

Were looking down in blame."—The Dream of Eugene Aram.

In China red is consecrated to the service of religion. The crimson cross of the Crusader is a further illustration of the symbolic use of the colour.

Green—the characteristic colour of the spring-time, when all nature appears to revive again, when the days of sunshine are growing more frequent, and in the bursting buds and blossoms we see the promise of the fruits of the earth in due season—is naturally associated with hope; while, in conclusion, black expresses the sense of sadness or sin—

"Oh, heaven! to think of their white souls, And mine so black and grim!"

In some old MSS, our Saviour, during the temptation in the wilderness, is clothed in a black robe. Black is the natural expression of the material darkness and gloom that follows the withdrawal of the cheering light of day—the natural emblem of the spiritual darkness of the soul into which no day-star has yet dawned: we see, therefore, how appropriately the expression "Prince of darkness" is applied to the arch-tempter—the great enemy of the souls of men. White and black, when used together, signify purity of life and humiliation, and were in this sense adopted by the Dominican and Carmelite monkish orders. The Caliphs of the House of Abbas, when marching to exterminate the hated infidel, had borne before them two black standards, called allegorically the Night and the Shadow—symbols of the unpitying ferocity that fell on all those that would not join the ranks and religion of Islam; and many of our readers will no doubt remember what an interest they felt in their younger days in the adventures of the pirates that, sailing under a sable banner embellished with skull and crossed bones, committed such devastation on the more prosaic merchantmen. In Spain some of the visiting-cards used are black, with the name in white; these are the cards of the doctors, and perhaps rather ominously signify their calling.

A good deal of the peculiar sameness which is so striking in looking through any large collection of Egyptian antiquities (as that in the British Museum) is caused by the fixed rules under which the artist or sculptor worked, each god having not merely a set form and series of attributes, with appropriate symbols, but even a fixed arrangement of colours employed in all representations of him. This gives Egyptian work that marked individuality of character as compared with all other styles of art; as the laws of the priesthood, once established, were immutable, and death was the swift penalty following any attempt at innovation. Thus the human figure, or that of any divinity, was always represented in profile, never in front view; while perhaps a still more curious example of the rigidity of the rules in which the artist was fettered is seen in the fact that in the hundreds of thousands of

figures sculptured or depicted in a standing or walking attitude, the left leg is invariably placed in advance of the right. No statue has ever been found where this rule is reversed. The line, it will be seen here, is a very thin one that divides orthodoxy from flat heresy. This remarkable conservatism was maintained even long after Egypt, after many centuries of independent power, had sank into a Roman province, and the same adherence to rule was to be seen that had been in force from the very earliest times. Plato, in speaking of this peculiarity of Egyptian art, says:—"The pictures and statues made ten thousand years ago are in no particular better or worse than those they now make."

Examples of symbolism of numbers are not so frequently to be met with, or if so, do not so clearly convey their meaning. The figure three—such as a three-pointed window, a trefoil, or triangle, Fig. 187, symbolised the Trinity; four, the Evangelists; six, the attributes of Deity—power, majesty, love, wisdom, mercy, and justice—hence the common use of the hexagon in early work; eight, regeneration (the greater number of the old baptisteries and fonts are on this account octagonal); twelve, the Apostles—hence applied, in a more extended meaning, to the Church generally. In Fig. 138 we have an ingenious arrangement of the circle—type of a never-beginning, never-ending eternity—and two equilateral triangles, from a church at Nuremburg; while in Fig. 186 the combination of arcs symbolises in one figure, by the actual blending of the curved and continuous line with a triangular character, the idea embodied in the equilateral triangle and circle—the Trinity, the Unity, the eternity of Deity.

A very ingenious treatment for giving expression to these articles of faith is often met with in old glass; the form is shown in Fig. 184. On investigation the reader will find that he has in it all the materials at hand to give utterance to several of the leading dogmas held throughout Christendom. Should he desire to realise the eternity of Deity, he finds it expressed in the circles surrounding the Divine names. Should he wish to emphasise the individuality of the persons, he will read "Pater non est Filius, Filius non est Spiritus, Spiritus non est Pater." Should he wish to grasp the idea of the equal divinity, he meets with it by reading not as before, from one outer circle to another, but from the outer to the central circle—"Pater est Deus, Filius est Deus, Spiritus est Deus."

Seven has by old writers been called the number of perfection; and it is curious to notice how often this idea seems involved in its use. Thus, to quote a few examples, Balaam, as an effectual test of the will of God, built seven altars, and prepared seven oxen and seven rams; Job, referring to the effectual protection of Providence, says: "In seven troubles there shall no evil touch thee;" while Jacob, as a sign of perfect submission, bowed himself seven times before his brother. The sevenfold circuit of Jericho, prior to its complete overthrow, is another example. Naaman was commanded to bathe seven times in the Jordan; Samson, for full security, was bound with seven bands; the Jewish Church has seven great holy-days in each year; the Romish Church has seven sacraments; the Hindoos believe in seven mansions for all created spirits, the earth being the lowest of these, while the seventh and highest contains the seat of Brahma; the Moslem prilgrimage is consummated when seven circuits have been made round the sacred stone at Mecca; amongst the Romans, children who died before attaining the age of seven months were denied the ordinary rites; while we may just mention without comment, merely begging our readers to bear in mind this idea of perfection, completion, and full satisfaction, the vengeance that should be taken sevenfold on any who slew the wandering Cain; the seven Apocalyptic angels bearing the seven vials; the sevenfold restitution that a thief was required by the Jewish law to make; the freedom that followed after six years of toil:—
"If thou buy a Hebrew servant, six years shall he serve, and in the seventh he shall go out free." We also read that at the first appointment of deacons in the Christian Church seven men of honest report were chosen. "How oft shall my brother sin against me and I forgive him: till seven times? Not seven times only, but seventy times seven"—a perfect forgiveness; while in ordinary reading we often find the same curious recurrence of this number—as the seven wonders of the ancient world, the seven ages of man, the seven wise men of Greece, the seven champions of Christendom, seven days of the week, seven principal metals, and the same number of the leading planets.

We might in the same way give many Biblical illustrations of the use of the number forty, as expressive of a time of probation and trial: thus the Israelites wandered forty years in the wilderness; again, after their deliverance from the hands of the people of Mesopotamia, the land, we are told, had rest forty years; while forty years of bondage they had also to bear under the hard yoke of the Philistines. The Son of God, before commencing His public ministry on earth, passed forty mysterious days and nights of conflict and trial alone in the wilderness.

The Chinese make a great use of symbolic numbers. The odd numbers 1, 3, 5, 7, 9, belong to Yang, or heaven; the even numbers 2, 4, 6, 8, 10, belong to Yin, or earth: hence, in the Temple of Heaven, at Pekin, the ascent to each of the three terraces is by nine steps; the pavement on the summit being formed by nine circles of marble slabs. The inner circle is composed of nine such slabs, the second circle of twice nine, the third of three times nine, until at length, in the outer circle, nine times nine-eighty-one, a very favourite number with the Chinese-is reached. The balustrades have nine times eight pillars on the upper terrace, nine times twelve on the middle terrace, and nine times twenty on the lower. These amount in all to 360, the number of degrees in a circle. The pavement of the middle terrace has in its innermost circle ninety stones, and in its outermost 162 stones thus reaching the double of eighty-one, the outermost circle of the upper terrace. So again, in the lower terrace, the circles increase from 171 stones to 243, or three times the square of nine, for the outermost. The altar of the Temple of the Earth stands on a double terrace, the upper portion being sixty feet square, and the lower 106 feet square, both being six feet in height. The paving - bricks are in multiples of six and eight. Thirty-six and sixty-four are the favourite numbers, for we have now come in contact with Yin, the principle of darkness, which affects a square form and even numbers, just as in the Temple of Heaven the Yang principle was represented by roundness in form and odd numbers. There is near the altar a pit for burying a bullock. At the altar of the Temple of Heaven, when the bullock is burnt, the Yang principle in the sacrifice is supposed to ascend in the smoke and flame. At that of Earth, on the contrary, when the victim is buried, the Yin principle descends in connection with death and corruption. For these details of Chinese symbolism we are greatly indebted to a description of these temples by a scholar of repute, the Rev. E. Edkins, in a work full of most interesting matter.

Returning to a consideration of symbolism of form, we shall now pass briefly in review some few of the leading forms of vegetable life that have been adopted in the past. Plants are so abundant in themselves, so widely spread over the earth, so pleasing to the senses, and in many ways appeal so directly to the attention of the thoughtful, that they naturally

furnish numerous illustrations for symbolic teaching; hence the allusions in the Bible to the withering grass, the fading flower—fit emblems of the short estate of man and the transience of all his glory; the lilies of the field arrayed in a splendour outvying that of Solomon himself, and teaching a lesson of trust in an all-providing care; the purging with hyssop; the Divine root and living branches; the parable of the wheat and tares; and the illustration used by the apostle—the grain sown in the earth—to explain something of the mystery of the resurrection of the dead.

There is, perhaps, no symbol more universally met with in Christian art than the palmbranch. It is so essentially a feature in any great rejoicing to deck the place where the festivities are held with wreaths and garlands, that some symbol of this nature seems only natural; and the palm, being bold in character, and abundant in those countries that were the first centres of Christianity, became thus selected as a type or symbol of rejoicing, of triumph over victory won; and it was doubtless the more readily adopted from the reference in the vision of St. John to the innumerable companies of the beatified spirits that, clothed in white robes, bear in their hands the palm-branch. The palm was originally assigned in art to martyrs alone, but after awhile it became appropriated to all those who had died in the Christian faith. It is largely used in the catacombs of Rome. Fig. 159 is an early example from this source; in this instance it surrounds what is known as the sacred monogram—a form to be dealt with at greater length in the succeeding chapter, wherein we shall proceed to consider the use of inscriptions, &c., in ornamental art. The palm is also met with in Jewish art; thus, in the description of the building of Solomon's Temple, in the First Book of Kings vi. 29, we read that "he carved all the walls of the house round about with carved figures of cherubims and palm-trees and open flowers, within and without." These plants had doubtless a symbolic meaning. The palm-tree and vine, either as detached leaves or clusters of fruit, or ears or sheaves of corn, are found on the Jewish coinage. We have no knowledge of the existence of any coined money amongst the Jews prior to the captivity. During that period they, however, became familiarised with the use of that of the Babylonians and Persians, and afterwards with the coinage of the Greeks and Romans. Their conquerors permitted them, BC. 140, when really semiindependent, the privilege of coining money—a privilege that several of the Asmonean princes availed themselves of. The coinage issued has on one side its value marked; on the other the year-first, second, third, fourth, or fifth-of the freedom of Jerusalem, and differs from that of most other nations in having no likeness of living being upon it. The prohibition of the law—" Thou shalt not make to thyself the likeness of any living thing that is in heaven above or the earth beneath "-seems scarcely to have been considered as extending to inanimate forms, as we find various emblematic figures like those we have already mentioned stamped thereon. We have in Fig. 153 a representation of a palm-tree on a copper shekel of Simon. A very similar device occurs also on the silver rial, Fig. 151, of Queen Mary of Scotland.

Many of the ancient writers describe the Holy Land as abounding with date-palms: hence Judæa, typified by a female figure, is on several of the coins of Vespasian represented as seated beneath one of these trees, an idea repeated on almost all the medals struck to commemorate the capture of Jerusalem and the subjugation of the land of Judæa by the Romans. Coins of Domitian, Titus, and Trajan have the same symbol on them. David, it will be remembered, says in one of his Psalms that "the righteous shall flourish as the palm-tree."

Another symbolic plant, the vine, is of equally common occurrence with the last. It is frequently employed in the Old Testament as a figure or emblem of the Israelites: thus, in Isaiah, Bishop Louth's translation, we read—

"My beloved had a vineyard
On a high and fruitful hill;
And he fenced it round, he cleared it from the stones;
He planted it with the vine of Sorek."

In one of the Psalms we find another good example of the same simile-

"A vine thou didst bring out of Egypt;
Thou castedst out the nations and plantedst it.
Thou preparedst the ground for it;
It spread its roots and filled the land.
The mountains were covered with its shade,
And with its tendrils the lofty cedars."

The allusions sometimes refer to such passages as, "I am the true Vine;" or to the parable of the vineyard whose rightful owner was slain; or, again, as in a general sense expressive of temporal blessing, as in the benediction of Jacob by Isaac, "God give thee of the dew of heaven, the fatness of the earth, and plenty of corn and wine." Christ in His teachings so clearly spoke of Himself as the Vine, that it naturally became intimately associated symbolically with Him. Examples of the vine are exceedingly abundant in Byzantine art—an art essentially symbolic in all its features. Many good examples may be seen on carved ivory caskets of this period in the South Kensington Museum. Byzantium, we may mention for the benefit of some of our readers, was the seat of government towards the close of the great Roman empire, the capital being transferred from Rome to Byzantium, or what we now term Constantinople. The word Constantinople means "the city of Constantine," the change being made in the reign of that emperor, when the empire was verging to decay-when, overgrown and yielding to corruption within, and fierce assaults of Hun and Vandal from without, the whole fabric of the state was tottering to its fall. This change of the capital taking place during the reign of the first Christian monarch will, it will be seen, explain how, in the first fervour of the new belief-which doubtless gained many an adherent when it passed from the dust and darkness of the blood-stained catacombs to the palace of the emperor—the old forms of architecture and ornament were looked upon as too suggestive of the bygone heathen state of things to be reproduced in the new city.

The chair of St. Maximinian at Ravenna, of sixth century work, is entirely overlaid with panels of ivory. On these are various Scriptural subjects, each being separated from those adjoining by lines of ornament of a symbolic character, chiefly the vine with its fruit, and having peacocks, lions, lambs, doves, and other animal forms introduced amidst it, the foliage being upon a scroll, with the animals interspersed. Owing to the minuteness and rich profusion of the ornament, we are unable, we regret, to give an illustration of it, as it would, from the necessary size, encroach more upon our space than its importance justifies; but it has been figured in several works, and we would warmly advise any of our readers who have an opportunity of gaining an idea of it to do so, as the designs are good in themselves, and also interesting as examples of symbolic treatment.

The bread and wine of the Last Supper are in early work sometimes represented by ears of corn and bunches of grapes. In classic art the vine is, with the ivy, associated with the service of Bacchus.

Plate XXII. is devoted to illustrations of the vine, Fig. 343 giving its natural growth, while the remaining examples are instances of its use in ornament. Figs. 340 and 342 are from Byzantine ivory carvings, and are somewhat conventional in character. Fig. 341 is derived from a piece of early Italian painted decoration; while Fig. 344 is taken from a piece of Roman mosaic. It is the only example on the plate that introduces all the leading and most striking features of the plant—its long and somewhat straggling boughs, palmate foliage, waving tendrils, and clusters of fruit.

The lily—the large white species so commonly met with in gardens, the Lilium candidum of botanical nomenclature—is very commonly met with in early art as the badge and symbol of purity of life: hence, in many old pictures and illuminations the Virgin bears a lily, or, in other cases, as in the treatments of the Annunciation, angel-visitants are seen presenting it to her. In Roman Catholic countries the snowdrop is from a similar motive dedicated to Mary, and on particular festivals, of which the Annunciation is one, her altars are decked with it. On this account it is important that the student should be familiar with these plants. He will find illustrations of the lily under the scientific name given above in any good books on botany; while the snowdrop may be sought for under the title of Galanthus nivalis. The festival of the Annunciation occurs near the end of March.

The almond—one of the most characteristic trees of Palestine—has, from its flowering in winter, been used as a symbol in the Bible; the close of life and the hoary head of age being likened to the flourishing of the almond-tree. The miraculous rod of Aaron became an almond (see Numbers xvii. 8), and the bowls of the great golden candlestick of the tabernacle were made, as we may read in Exodus xxv. 33, 34, like almonds. A branch of flowering and fruiting almond, in memory of that of Aaron, is met with on several of the silver shekels and half-shekels struck by the Asmonean princes after the Jewish captivity. The pomegranate, another common tree in the Holy Land, was used in Jewish ornament, and no doubt, judging by analogy, with a symbolic and inner meaning, though we are now unable to say definitely what significance it bore. The promised land of Canaan was described as "a land of wheat, and barley, and vines, and fig-trees, and pomegranates," and the spies sent in advance of the people brought on their return grapes, pomegranates, and figs. The pillars of Solomon's Temple had an ornament of lilies and pomegranates, and the robes of the high priest had "pomegranates of blue, and of purple, and of scarlet, round about the hem thereof; and bells of gold between them round about; a golden bell and a pomegranate upon the hem of the robe round about."

The passion-flower is freely used in decorative art, to symbolise, as its name imports, the Passion of our Lord; and it can only appropriately be used symbolically in this particular connection. It is an illustration of that straining after analogy that we have already objected to as a blemish; but as it has gradually assumed its place as a recognised symbol, we are bound to admit it a place in our remarks. It is somewhat difficult to explain without a diagram those features in the plant that render it, according to the fanciful belief of the older writers, an especially appropriate symbol, but the following are some of the points that are thus associated with the sufferings of Gethsemane and Calvary. The ten members—five petaloid, five sepaloid—composing the perianth or outer ring of the flower, stand for the apostles, Peter being absent because he denied his Master, Judas because he meanly betrayed Him. The rays forming the coronet of the flower are the glory. The ovary is not unlike a hammer, the three styles, with their globose stigmata, being the nails, while the five stamens

are the five wounds. The plant, from its large and handsome flowers and fine palmate leaves, is one well worthy in itself, symbolic significance apart, of the ornamentist's regard. We need scarcely say, however, that it must either be used altogether and obviously without any symbolic afterthought or undercurrent of meaning, or else in the limited connection above detailed. Though the passion-flower is now not uncommon, our readers will remember that it was introduced from abroad: hence, it does not occur in early English art, nor at any time so commonly as plants that are either indigenous, or of early introduction and

more complete acclimatisation-plants, therefore, more familiar to the designer.

In ancient art-Egyptian, Assyrian, Indian-the lotus is a very conspicuous feature, in some cases considerably conventionalised in treatment, but still, nevertheless, sufficiently testifying to the natural type-form. Among the Egyptians especially do we find it used; the capitals of their columns, their jewellery, drinking-vessels, surface ornament, &c., being all largely dependent for their effect upon the ornamental forms more or less obviously based on this plant. As illustrations of the great variety of designs thus developed, we have represented, in Figs. 149, 150, 160, 169, 190, 195, 196, 197, and 407, a series of examples from various Egyptian sources. The first four of these are from mummy-wrappings, the outer covering, or cartonage of the mummy being generally overlaid almost entirely, from head to foot, with continuous lines of such ornament, each band about an inch in width, and each being complete in itself, and having no connection with those above or below it, though placed in immediate contact with them. Numerous examples of this feature may be seen in the British Museum and other large national collections—as the Louvre, or the Berlin Museum. In Fig. 149 the decorative effect is produced by the fruit alone; in Fig. 150 the designer has employed merely the flower, turning it alternately upwards and downwards; in Fig. 160 the fruit alternates with a series of detached petaloid forms; while in Fig. 169 the designer has removed the flowers that in Fig. 150 were reversed, placing in their stead two fruit forms cut open so as to show the internal structure-a form very similar to that produced by cutting an orange transversely in half-and on these a third fruit form in its original integrity. In some cases the design is entirely composed of a series of these cross-sections, giving a simple but agreeable patera form. In Fig. 190 we have another painted example, from a papyrus, introducing the flower and bud. Fig. 195 is a peculiarly rich example from an altar of black basalt in the British Museum, and illustrates very beautifully the great brilliancy of effect that, in the hands of a clever designer, even materials so simple in themselves as those used therein, are capable of producing. Figs. 196 and 197 are further good and simple instances of the use of the plant. In the first of these the bud, flower, and leaf are employed, in the second the flower and bud alone. The leaf of the lotus, though a form sufficiently pleasing in itself, and a good contrasting form with the flower, is very rarely met with. The elaborate design for a pavement, Fig. 245, owes some, at least, of its richness to the introduction in the central panel and outer border of lotus forms. The original, a pavement from Kyonjik, may be seen in one of the Assyrian Rooms, British Museum.

A certain amount of confusion has arisen from the similarity of name of two really dissimilar plants, the name lotus being applied to the lily of the Nile, the Nymphæa Lotus of botanists, and also to the Indian lotus or water-bean, the Nelumbium speciosum of scientific nomenclature. The latter is not now known in the Nile, though it is represented in the sculptures of the Romano-Egyptian period; it is never, however, met with in earlier art, and the true lotus of the monuments, the characteristic plant of real Egyptian national

art, is always the former of the two. The lotus was sacred to Isis, the Egyptian goddess of fecundity; the flower was used, therefore, symbolically, to express the plenty that in that almost rainless climate was caused by the fertilising periodical overflow of their great river, the melting snows of the Abyssinian highlands annually bringing rich store of wealth to the Egyptian plains. Amongst the Hindoos and Chinese the lotus has more ordinarily the character of the Indian plant. In a Sanscrit poem a beautiful Indian lake is described as being "fragrant with the lotus;" the water bean is the plant here referred to. A form analogous to, and probably suggested by, the Egyptian treatment of the Nymphæa Lotus, is occasionally met with in Assyrian and Indian art, as in the Sanchi Tope gateway, a Buddhistic structure, of which a cast may be seen in the architectural collections of the South Kensington Museum. Both species of lotus may be studied in their natural growth at Kew.

Among the Assyrians but few plants appear to have had any symbolic meaning, though many are represented pictorially in their sculptures, if we may here be allowed to use the term pictorially in such a connection as implying a certain natural character and picturesque treatment in opposition to the necessary modification requisite in decorative work. There is, however, one form that is of continual occurrence; it is of a very conventional nature, but it has been supposed by some whose opinions have value to represent the tree of life, a sacred and mysterious symbol, entering into all the religious systems of the East, that we meet with in the earliest chapters of the Bible, amidst the delights of the earthly Eden, and in the last chapters amongst the joys of the Paradise of God. The Assyrian symbol is generally flanked by eagle-headed figures. It may probably have some reference to the groves so frequently found in various idolatrous systems, as in our early Druidic rites, and which so repeatedly became the object of worship with the Jewish people, and the cause of national humiliation and punishment. "The Lord shall smite Israel as a reed is shaken in the water, and he shall root up Israel out of this good land, and he shall scatter them, because they have made them groves." Mahomet is described, in the fifty-third chapter of the Koran, as having seen the angel Gabriel by the lote-tree, which stands in the seventh heaven on the right hand of the eternal throne. It is also called the tree tooba, a word signifying eternal beatitude. Moore, in his "Paradise and the Peri," it will be remembered, introduces it in the following lines:-

> "Farewell, ye odours of earth, that die, Passing away like a lover's sigh; My feast is now of the tooba-tree, Whose scent is the breath of Eternity."

The Amaranth of our poets appears to bear a very similar significance. The term is derived from two Greek words signifying not withering. Thus the passage in our New Testament translated "a crown of glory that fadeth not away," is in the original Greek "the amaranthine crown of glory." Milton is frequently found to use the word; it occurs several times in the "Paradise Lost." The following fine passage from the third book will sufficiently well illustrate this application of it:—

"The multitude of angels, with a shout
Loud as from numbers without number, sweet
As from blest voices, uttering joy. Heaven rang
With jubilee, and loud hosannas filled
The eternal regions. Lowly reverent

Towards either throne they bow, and to the ground, With solemn adoration, down they cast
Their crowns inwove with amaranth and gold.
Immortal amaranth, a flower which once
In Paradise, fast by the Tree of Life
Began to bloom; but soon for man's offence
To Heaven removed, where first it grew, there grows
And flowers aloft, shading the fount of life."

The rose is from time to time met with both in Christian and Pagan art. The plant mentioned by Biblical writers as the Rose of Sharon has no relationship to the roses of our gardens and hedgerows. Much has been written, and many opinions expressed, regarding the plant that is thus referred to, but it is probably either a kind of Hypericum or the plant described by Linnæus under the name of Cistus roseus, the rose-flowering cistus, a plant of the same botanical order as our common and beautiful rock-rose, and abundantly met with throughout Judæa, and notably so, according to the testimony of travellers, in the Vale of Sharon. True roses, however, grow freely in the Holy Land, and the Syrian origin of our beautiful damask rose is indicated in its name -the rose of Damascus. Among some of the Northern nations a rose was suspended in the place of deliberation where weighty matters requiring secrecy were discussed, hence the modern expression sub rosâ. In classic fable we meet with this same idea again, as Cupid is represented therein as giving a rose to Harpocrates, the God of Silence. It is a very favourite flower of the Persians and other Eastern races, and is freely introduced both into their poetry and religious belief. Thus, when Abraham was thrown into the fire by heathen persecutors, the flames, according to Persian tradition, became a bed of roses, whence the Persian feast of roses is held each year with great rejoicings. Into Christian art the rose enters from time to time, owing to its association with several legends; thus we are told that a virgin named Dorothea, after suffering martyrdom in Cæsarea, converted the scribe Theophilus to Christianity by sending him some roses from Paradise. A golden rose is one of the greatest honours that a sovereign can receive at the hands of a pope. Henry VIII., in addition to his title of Fidei Defensor, received one from Alexander VI. The Roman emperors, in like manner, used it as a means of conferring distinction upon those they wished to honour. Among the numerous titles given in mediæval times to the Virgin Mary we find Rosa Cæli and Santa Maria della Rosa, that flower being consecrated to her; hence it may often be seen represented in old pictures and frescoes, either in the hand of the Virgin mother or of her Son. Dante, in allusion to this, writes :-

"Here is the Rose, Wherein the Word Divine was made incarnate."

We need scarcely remind our readers of the heraldic use of the flower, the rose of England, like the thistle of Scotland and the Irish shamrock, being too familiar a symbol to need more than a passing mention. The rose was first borne as a royal badge by Edward I. James I., under whose reign England and Scotland became united, bore, as badge, a rose and thistle combined. Fig. 145, a pattern coin struck during the reign of Queen Anne, is a very good example of such a combination. The thistle has been borne by Scotland as a national emblem from the year 1503. James IV. of that kingdom adopted it as his personal badge, but the expressive motto, "Nemo me impune lacessit," was not added until some time afterwards. It is first seen on the coinage of James VI., in the year 1579.

The Tudor rose, as it is termed heraldically, is largely used in the later mediæval decoration on the conclusion of that desolating strife, which, from the emblems chosen by the rival factions, is known in history as the War of the Roses. The form may be seen on our coinage, as in the pennies of Edward VI., where it is surrounded by the motto, Rosa sine spina, a sentiment afterwards very freely bestowed in adulation of his kinswoman, Queen Elizabeth. The Tudor rose may be met with again on the silver halfpennies of James I., Charles I., and Charles II. A very good idea of the form may be derived from Fig. 192, a piece of carving from the door of Prince Arthur's Chantry in Worcester Cathedral, and dating about the year 1504. In conjunction with the portcullis, the badge of the city of Westminster, the rose of the Tudors is lavishly employed within and without the chapel of Henry VII. at Westminster Abbey. In any painted representations the petals either alternate in colour or the flower is divided down the centre by a line, the left-hand half of the outer ring and the right-hand half of the inner ring of petals being of the same colour, the other halves being of the alternating colour. It is always painted in red and white, the red rose being the badge of the Lancastrians, as the white was that of the Yorkists.

Many plants, in addition to those just referred to, have heraldic significance. Thus, Henry II. bore a broom plant, the planta genista of old writers, whence arose the historic family title, Plantagenet. Henry IV. adopted a columbine flower, and Katherine of Arragon a pomegranate or sheaf of arrows. The daisy has in like manner been used at divers times as a badge. In French its name is Marguerite, meaning a little pearl, expressive of its beauty; hence, to cite one instance, it was used by Margaret, Countess of Richmond, and it may still be seen carved in stone over the gateway of St. John's College, Cambridge, founded by that lady.

The Scottish clans in the same way have each their appropriate badge. To quote a few examples, the Camerons bear the oak; Macgregor, the pine; Maclachlan, the mountain ash; Macdonald, the heath, known botanically as the *Erica tetralix*, the allied species *E. cinerea* being borne by the Macalisters; Chisholm, the alder; Buchanan, the birch; Campbell, the myrtle; Macpherson, the box; and Robertson, the brake.

Should any of our student-readers, to whom the subject is new, care to seek out examples for themselves, they will find, amongst other sources, the glass-quarries of our old church windows very often full of suggestive designs, sometimes purely decorative, but generally either heraldic symbols of earthly rank and glory or else of religious significance. We have, in Fig. 191, illustrated a curious example from this source, a fungus springing from amidst the moss; the original is in Ockham Church, Surrey, a building containing many interesting features, and amongst them an early English window of seven lancets, a very uncommon number. As this particular device, unlike many, is not met with elsewhere, its meaning must remain an open question. We may either consider that some mediæval fungologist admired it for its own sake, the various forms and the rich variety of colours seen in fungi being often strikingly beautiful, or, as we prefer to think, chose it as a fit emblem of the low estate of man, the fragility of his frame, the transience of all his mundane glory. We may here, perhaps, mention, though it is somewhat foreign to our present subject, that in the Museum of Economic Geology may be seen a very curious vase of Chinese manufacture, the body of the vase being shaped like a large, hollowed fungus, while at its base and surrounding its stem are other and smaller fungoid forms. This we have represented in Fig. 95. Many other plant forms may be met with, and more or less

familiar in their application. Our space, however, requires us to forbear from any more lengthened comment, and we must now leave the matter to the industrious research of those who read these few remarks, should we have been so far successful as to have awakened an interest in the subject of a sufficient intensity to stimulate further inquiry.

Of the four elements, as they were formerly termed—earth, air, fire and water—various symbolic treatments are found, though, except of the last, they are but few in number. The earth, when thus symbolised, is ordinarily shown as a sphere; in our last chapter we saw, for example, that the peacock, emblem of the risen and glorified soul, was rising from a small sphere or ball. The air, from its impalpable nature, presented great difficulties, but in almost all periods of art it is suggested by a powdering of stars, the ceilings, for instance, of many of the Egyptian temples were painted deep blue and studded with stellate forms, in suggestion of the starry host of heaven, while fire is generally a human head, or amongst the Greeks and Romans that of Apollo, from whence rays of fire proceed; a

suggestion of the radiant glory thrown off from the sun, the great heat-giver.

The planets were, by the classic nations of antiquity, regarded as symbols of their divinities. Saturn, in consequence of the slowness of its motion and the large size of its orbit, was taken as the symbol of the god of time, and like time, Saturn was, in classic mythology the destroyer of his offspring. Jupiter, from its large size and the splendour of its appearance, fitly symbolised the king of the gods, great Zeus, ruler of gods and men. Mars, the reddest of the planets, was the warrior's star, and bore the name of the god of battles. Venus, whose clear, bright light is seen even at sunrise, when the brightening day has blotted out all the other stars, as in the twilight before the gathering gloom has made others visible, was believed to produce the welcome and fertilising dews of the morning and evening; hence she became the symbol of the goddess of beauty, of love, and of fruitfulness, and was worshipped by the various nations of antiquity as Venus, Ashtaroth, or Astarte. Mercury, from its rapid flight, was regarded as the symbol of speed and lightness, the messenger of Olympus. The sun, as the great source of light and heat, was in the early ages of the world almost universally worshipped; in Egypt as Osiris, in Phœnicia as Adonis, in Lydia as Athys. We need perhaps scarcely say that our Saxon ancestors were sun-worshippers, as we still have a memorial of their homage to it in our word Sunday, the day of each week specially devoted to its honour. The Magi of Persia, a sect founded by Zoroaster, were fire-worshippers. Fire was a symbol of majesty amongst the Romans, as in the sacred fire preserved by the Vestals. Our readers will also recall the classic legend of Prometheus, who snatched fire from heaven, while in the Old Testament we read that Jehovah himself frequently selected fire as a manifestation of His presence, as in the burning bush of Horeb, the lightnings of Sinai, the fiery pillar of the wilderness journey, the acceptance of the sacrifice of Elijah before the worshippers of Baal. The Parsees of Western India are a modern instance of a fire-worshipping people.

Water is, in Egyptian art, represented by a series of equal zigzag lines, as seen in Fig. 161, and it is curious to notice that in our astronomical signs of the Zodiac, Aquarius, the water-bearer, has a similar form for his distinguishing symbol. This sign would appear to convey, very truly, the idea of such a river as the Nile, in its suggestion of easy and equable rippling motion; while in the Assyrian slabs we have the representation of the Tigris, a swiftly-flowing stream, deep in its channel, and having a large body of water. We find that the water, though still represented in a conventional manner—a conventionality, however, in this case probably arising from inability to produce a more natural representation, as the fish

sometimes added, Fig. 171, or the trees fringing the stream, are purely naturalistic-differs in its form from the Egyptian type, as here the water is drawn out into longer forms, terminated by lines curling over, and thus giving the idea of a rapid current, the stream hurrying along in turmoil, and forming from time to time small waves. In Greek art the conventional representation of water is seen in Fig. 250, the wave scroll, as it is termed by ornamentists. In this we have a suggestion of the small and comparatively regular waves of the Mediterranean Sea as they beat upon its shores. The ceaseless flow and steady force of the waves are here symbolised, the changeableness and variety of nature being subdued and lost in the general idea of their ceaseless flow. It may perhaps appear that we have been scarcely fair in taking rivers as a type in the first two instances, and the sea in the third; but in this respect we can after all only fall back on the materials at hand; and it will be seen, on consideration, that in Egypt with the Nile, a river more than two thousand miles long, flowing throughout the whole length of the country, the source of the fruitfulness of the land, and the great highway of commerce, while the sea fringed but a small part of the country—the river would naturally be most familiar to the people, and would afford the type. In Assyria, again, an inland country, whose inhabitants could only be acquainted with the sea through their foreign conquests in Palestine and other sea-bordered lands, were two fine rivers, having a course of more than a thousand miles through the heart of the land—the two great cities, Nineveh and Babylon, being built on the banks of the Tigris and the Euphrates respectively—so that here, again, the rivers became of necessity the type-form. In Greece the case is most strikingly reversed; we know, from the teachings of history, that the Greeks were great mariners and colonists, and by a glance at the map we at once see that, while it has few rivers, and those but small, it is almost entirely surrounded by the sea, and has a deeply-indented coast-line. Politically, too, in addition to the mainland, it consisted of a very large number of sea-girt islands. Under these physical conditions the Greeks were of necessity a maritime people; and thus the sea-waves, rather than the fountains and rivers, became the type-form.

Figures known as the Passion symbols are occasionally met with in mediæval art. They are either painted or carved on shields or panels, and refer, as the name implies, to the sufferings at the close of our Lord's human life. Figs. 164, 165, 167, 168 are illustrations; the objects represented being the ladder, the seamless robe, and the dice-lots being cast for its possession—the spear and sword, the thirty pieces of silver, the pincers and hammer. Other common symbols thus introduced are the pillar and scourge, the reed and sponge, the nails, the thorny crown. A particularly good example of the use of the Passion symbols may be seen in a panel at Bishop Lydiard Church, Somersetshire, where a central shield containing a pierced heart and nail-imprinted hands and feet is surrounded by the crown of thorns, the angles being filled by the nails, hammer, ladder, lantern, cross, pincers, and pillar. We have figured this in our 177th illustration. It is curious to notice how completely the designer disregarded all ideas of the relative proportions of the objects. The nails are each as long, it will be seen, as the cross; the spear and the hammer are about equal in length; while the crown of thorns, if the pillar be taken as a scale, would be about twenty feet in diameter. We have seen good examples of these Passion symbols from Swaffham Church, Norfolk, and again in a little church at Mildenhall, near Marlborough, Wiltshire. Fig. 140, the vesica form, containing the four nails, is from the latter building.

Of all the symbols connected with the Crucifixion on Calvary none stand so prominently forward as the cross. The Atonement which it pre-eminently symbolises must be regarded

as the very key-note of Christianity; the cross becomes thus of universal application in every age and in every Christian race. Once the badge of suffering and shame, for ever after the symbol of victory—to suggest the ground plan of our noblest buildings, to crown their loftiest summits. The cross, as the symbol of the Crusades, wherein the chivalry of the western nations of Europe shed blood and treasure lavishly to rescue the Holy Land from the yoke of the hated infidel, enters largely into heraldry, a great number of modifications of the typical form being there met with.

Very numerous examples of the cross form may be noticed on our coinage. We have in Figs. 154. 155, 156 the central portions of three of our early coins, the first being from a penny of William II., the second from a penny of Stephen, the third from a penny of Henry II. Fig. 157, a silver halfpenny of the reign of Queen Elizabeth—curious as having on the opposite side, Fig. 158, another symbol, the portcullis—is another instance of its use. The cross and groups of pellets, as the little circular forms were termed, was for a long time a very favourite device. It may be seen on the coins of Edward I., Edward III., Henry IV., Henry VII., and Henry VIII.

The cross form in combination with the crown of thorns may be seen in Fig. 185, part of the orphrey of a chasuble of German workmanship, in the South Kensington Museum.

The nimbus, though pagan in its origin—a fact that at first caused considerable opposition to its introduction into Christian art, an opposition that was not completely overcome till about the tenth century—is now one of the familiar symbols of religious art. It was originally used as an expression of power or glory; and in some of the older work Satan, powerful for evil, is represented with a nimbus. This original use may still be seen maintained on the coinage and official arms of some of the continental nations, each head of the double-headed eagles of Austria and Russia being surrounded by a circular nimbus. This, from the large size and good workmanship, may be very well seen in what is known as the Maria Theresa dollar, a coin that has become somewhat more known in later times, from the great number that were struck at Vienna from English silver for the use of the Abyssinian expedition. In Fig. 199—a piece of Swiss glass, dated 1618, and now in the collection at South Kensington we have an illustrative example of this heraldic use.

In early examples, as in Figs. 175, 176, the nimbus is always a portion of a circle, and frequently enriched with painted, stamped, or jewelled devices. In the fifteenth century the name of the wearer was frequently inscribed within the circumference. In these early instances the nimbus is sufficiently substantial to completely hide any object behind it, so that in many pictures—in our National Gallery, for instance—where a number of saints, martyrs, or confessors are grouped together, great parts of the faces of those in the rear are blotted out, the nimbus forms themselves overlapping, like tiles on a roof. During and after the fifteenth century a great change took place; a perspective effect was produced, the nimbus became elliptical in form instead of circular, and was limited to a thin golden line, as in Raphael's well-known cartoons, or the perhaps still more familiarly known picture, by Delaroche, of the "Christian Martyr."

Du Cange, an old writer, says that the nimbus was intended to typify the overruling and protecting hand of Providence, the righteous being thus defended as by a shield; but there is another explanation, which, though not so poetic or striking, is probably truer. In classic times it was esteemed a great honour to have a portrait painted on a circular golden shield and suspended in the Temple or Forum. In course of time, even when the whole figure was represented, the golden circle, as may be seen in some of the paintings at Pompeii, was

still retained about the head. In the nimbus surrounding the head of our Saviour a cross is contained "the similitude of the blood-stained cross"—more or less enriched; but in subjects representing events before the Crucifixion the cross is of simpler character than that surrounding the head of the risen and glorified Redeemer. Good examples of this may be readily seen in the pictures of Benozzo Gozzoli, and others, in the National Gallery, and in a large reproduction, in the South Kensington Museum, of a piece of Byzantine mosaic from St. Mark's Church at Venice.

In reference to this beautiful mosaic we would desire to say a few words on a matter which may possibly not have struck some of our readers—the striking similarity of feature and expression in all the portraits, mediæval or modern, of our Lord. Little else but unreliable tradition and legend meet us in our endeavours to arrive at the origin of this; there can be, however, but little doubt that the description of Christ which Publius Lentulus sent to the Roman Senate has assisted in forming the character of the likeness. Lentulus, who was pro-consul of Judæa before Herod, had himself seen the Saviour, and wrote as follows to the Senate respecting Him :- "At this time appeared a man, who is still living and endowed with mighty power. His disciples call him the Son of God; others regard him as a powerful prophet. He raises the dead to life, and heals the sick of every description of infirmity and disease. The man is of lofty stature, and well proportioned; his countenance severe and virtuous, so that he inspires beholders with feelings both of fear and love. The hair of his head is of the colour of wine, and from the top of the head to the ears straight, and without radiance, but it descends from the ears to the shoulders in shining curls. From the shoulders the hair flows down the back, divided into two portions, after the manner of the Nazarenes. His forehead is clear and without wrinkle; his face free from blemish; his physiognomy noble and gracious. His beard is abundant, the same colour as the hair, and forked. His eyes blue, and very brilliant. In reproving or censuring he is awe-inspiring; in exhorting and teaching his speech is gentle and caressing. His countenance is marvellous in seriousness and grace; grave and solemn in his discourse; his language is simple and quiet. He is in appearance the most beautiful of the children of men." The Emperor Constantine caused pictures of the Son of God to be painted from this ancient description.

The peculiar nimbus form known as the vesica was applied only to Deity and the Virgin Mary. It differs from the nimbus in surrounding not merely the head, but the entire person. It is a common form in ecclesiastical art; for though its use as a nimbus or glory is limited as we have stated, the form itself is largely used in panelling, window-traceries, or even in entire windows. The form is produced by equal arcs intersecting each other.

We may occasionally in old pictures see persons represented with a square nimbus; this betokened that the person so represented was alive at the time the picture was painted. Pictures were in the Middle Ages not much employed except for religious purposes, as altar-pieces, &c., and the fraternity to whom the picture was given frequently caused the portrait of the donor to be introduced, as a delicate compliment to him, and an acknowledgment of the piety that had prompted the gift.

The anchor, dedicated especially to St. Clement, since it was the instrument of his martyrdom, he being tied to an anchor and flung into the sea; and secondarily as a symbol of Christian steadfastness and hope; the lamp, illumining the darkness, and recalling such passages as "Let your light so shine before men," and again, "Thy word is a lamp unto my feet;" the crown, or wreath, Fig. 159, implying sovereignty, victory won, the crown of

glory that fadeth not away—are all at times met with. In Christian art each saint has some distinguishing symbol—often something connected with his or her martyrdom; thus St. Paul bears the sword, St. Catherine a spiked wheel; or it may be something associated with some event in the life; and thus St. Peter bears the keys of the kingdom committed to him by the Divine Master. We see in the thunderbolt of Jupiter, the trident of Neptune, the caduceus of Mercury, the helmet and spear of Minerva, the thyrsus of Bacchus, and many others, this same association of symbol with particular persons in classic art; while in Egyptian art again each god has his appropriate and distinctive symbol.

Many other symbolic forms of less frequent recurrence may be met with, but on these it scarcely seems desirable to dwell, those already given being those that the student is far more likely to encounter in his studies, far more likely to find himself called on to understand or to introduce than such symbols of minor importance, as the sword of the Scandinavian Tyr, the God of battles, or those that mark and distinguish the ten incarnations of Vishnu,

the preserver of the world, according to Hindu mythology.

## CHAPTER IV.

Writing Characters—Mexican Picture Language—The Hebrew Alphabet—Runic Characters—Early Letters all Straight Lined—Cursive Writing—Writing Materials—Palimpsest MSS.—The Labours of Angelo Mai—Palimpsest Brasses—Clay Records—The Rosetta Stone—Greek Boustrephedon Inscriptions—Study of Archieology—Moorish Inscriptions—The Alhambra—Structure of Monograms—Abbreviations in old MSS, a fertile Source of Error—Structure of Ciphers—Barbarous Character of Early Monograms—Ciphers and Monograms from Pottery The Cross prefacing Inscriptions—The Crux-ansata of Thoth The Tau Form of Cross—The Sacred Monogram—The Vision of Constantine—The I.H.S.—Monograms on Coinage—Inscriptions on Comage—The Monograms of Artists on their Works—John Thorpe and his Plan—Palace of the Escurial—Merchants' Marks—Branch Letters—Ribbon Letters—Medieval Inscriptions on Houses—Posy Rings—Inscriptions on Church Bells—Heraldic Mottoes—Use of Inscriptions amongst the Eastern Nations—Inscriptions as an Element in Modern Ornamental Art—General Features of Assyrian Art—Absence of Ornament—The Patera Form in Ornament—The Anthemion Form in Ornament—Absence of Vegetable Forms—The Use of Colour in Assyrian Art Assyrian Art Zoomorphic—The Tri-lingual Inscriptions of the Persiaus—The Method Employed for Reading the Cunciform Character—Sketch of the History of the Ancient Kingdom of Assyria—Discovery of Site of Nineveh—References of Biblical and Classic Writers to the Assyrian Power.

In every period of art a greater or less use of inscriptions as an element in ornamental design may be met with, though it is in some cases difficult to determine how far the inscriptions are of decorative character, or, on the contrary, are to be considered merely as statements of facts alone; since even in the richest examples an inscription would hardly be worked up into the general decoration, unless it bore some significance, and added value to the work in a higher degree than as a mere aggregation of forms graceful but meaningless. Definitions, it is well known, are extremely difficult things to venture on; but in the present case we need trouble ourselves but little to draw a hard and fast line, since, while it is true that examples of doubtful character may be met with, there will ordinarily be no difficulty in assigning to such instances as we may encounter their proper sphere. If, for example we see "Dent, London" legibly inscribed on a clock-face, we realise at once that the matter-of-fact statement has no other object than to afford knowledge of certain business details; but if surrounding the dial we have a band inscribed "Time tryeth, time flyeth," we comprehend that the designer, desiring to beautify his work, has chosen an inscription full of thought and suggestiveness, as well calculated to attain the end in view. A very good example may be seen in the motto surrounding an old clock in the north tower of Exeter Cathedral: it is placed round the circle of hours, and is as follows:---"Percunt et imputantur" ("They perish and are reckoned"). As we have already seen, in a previous paper, that the highest kind of art, decorative or otherwise, is that which contains the clearest impress of thought in the designer, our readers will, we trust, see that a consideration of the use of caligraphy in its varied modifications is a subject well worthy of our attention, since manner and matter in these cases may alike be good; thoughts of rich and poetic suggestiveness appealing to the mind, and clothed in forms that, from their grace, satisfy the eye. It will readily be seen, on slight reflection, that the decorative effect produced will be very greatly dependent upon the character employed; thus the Roman characters at present in use-though, from their clearness and simplicity of form, of eminent work-a-day utility—present but little scope to the designer, while the various mediæval alphabets, from

their picturesque character and quaintness, are especially adapted to art purposes. It follows, therefore, that where a decorative effect is desired, as in texts for church-dressing, the Gothic character is, even to the present day, employed. This practice, though at times presenting some evident anomalies, does not seriously, we think, violate any law of artistic propriety, and more especially as it is ordinarily in harmony with the architectural features of the buildings, so long as the text or other matter is clearly legible; though it at once fails of its primary object, when, owing to overcrowding of accessory ornamental features, or the use of a character unknown to all but a few antiquaries, it appeals merely to the eye, and leaves the mind unsatisfied. There is great need in the present day, when the practice of so-called illumination is so general with amateurs, who bring but little previous study to bear on their work, to emphasise the fact that the decoration—the outer clothing—is subordinate to the thought they thus seek to clothe. True illumination should aim at the clear and legible setting forth of some thought noble in itself. Any amount of good decorative work may be added in enhancement of honour to this, but as soon as the decoration, instead of being the accessory, becomes the principal feature, the whole aim is perverted—the last becomes first and the first last, and the text or other passage that should at once strike the eye is lost in a labyrinth of forms, that, possibly beautiful enough if kept in due subordination, become an eyesore and an impertinence when they usurp the attention and thrust from its throne what should really be the centre on which the eye should without difficulty rest.

Hence, too, in defining the scope and aim of illumination, we have stipulated for the choice of some worthy subject—a something not so trivial and unworthy in itself as to make each hour spent on it an ever-increasing error of judgment, a sad misdirection of energy and patient toil.

The characters employed by various nations differ very greatly: in some cases, as in the ancient Egyptian, the forms are very pictorial in their character; in others, as in the cuneiform, or wedge-shaped characters, Fig. 227, very arbitrary and rigid: in some cases, again, rectilineal, Fig. 203; in others, Fig. 213, flowing, and susceptible of considerable freedom of treatment. Where a nation has been isolated it will ordinarily be found that its written language has passed through most, or all, of these stages; the course generally gone through by any people in emerging from barbarism being as follows:-First, habits of observation and power of drawing that shall be sufficient to enable both writer and reader to agree that a given rough sketch is meant for a man, a beaver, or the sun; and secondly, the combination of such into pictures, generally, naturally, of a very rude character. The ancient Mexicans excelled in this way of recording events; and though, owing to the unfortunate and precipitate zeal of the Spanish priests, who, on the subjugation of the country, destroyed many valuable MSS. and mural paintings, a great mass of interesting matter has been lost, enough still remains to illustrate their method of recording events. What the loss really was, and how complete the destruction, may be seen by the following quotation from the writings of the Abbé Clavigero :-- "The Mexican empire abounded with all those kinds of paintings, as their painters were innumerable, and there was hardly anything left unpainted. Of all those which were to be found in Tezcuco, where the chief school of painting was, they (the priests) collected such a mass in the square of the market, that it appeared like a little mountain; to this they set fire, and buried in the ashes the memory of many most interesting and curious events."

The Mexicans, in addition to this picture-teaching, used certain arbitrary marks to indicate things of too abstract a character to allow of their clear pictorial representation, and by the

combination of the two systems were able to record many things that at first sight would appear incapable of being preserved in such a way. They had also advanced as far as the recognition of certain symbols of a phonetic character, but the system, though in many respects resembling that of the Egyptians, is very far removed from the perfection attained by the latter people.

The Mexicans, like many other semi-civilised people, had even in their proper names some reference to natural objects; so that the difficulty of representing them intelligibly was by no means so great as at first sight appears; thus, for instance, Ilhuicamina, the name of one of their kings, signifies "the arrow that pierces the sky;" while the names of the cities of Macuilxochitl and Quauhtinchan signify respectively "five flowers," and the "home of the eagle." Of these curious records of this strange people our readers will find several examples in fac-simile, giving both the quaint form and brilliancy of colour of the originals, in Humboldt's "Atlas Pittoresque." Some of the paintings refer to political events, others to domestic matters. One curious series is devoted to the education of children, each picture being divided in half; in one part the father instructs his son, in the other, the mother educates the daughter. At five years of age the boy carries loads, and the girl attends her mother in spinning; at six, the girl learns herself to spin, while her brother is instructed in the use of the fishing-net. In other pictures of the series, idleness or disobedience meet their very conspicuous reward—the rod falls, and tears flow. Numbers are expressed by dots or other simple forms. It is soon found, however, by any people thus feeling their way to a written language, that though this pictorial treatment does very well for natural objects, it does not meet many cases that arise as the nation advances in intelligence. The first step towards overcoming this difficulty—as Sharp, in his history of ancient Egypt, has very clearly shown -is to use the picture, not for the object itself, but for its name; thus the means of writing a sound or syllable is gained. In Egyptian, the word for head was pe; mouth, ro; an owl, mo. On the temple walls hundreds of these natural forms may be seen; no longer, however, to be read literally as heads or mouths or owls, but as the syllables, pe, ro, mo, in the formation of other words. The next great step was to use these characters for letters, not for syllables; the character for pe becomes P, the form for ro becomes R; Ahom, an eagle, becomes A; Berbe, a censer, becomes B; Knikiji, a basin, is K. This is, of course, the formation of an alphabet; and when it is once thus recognised by a people any record becomes possible. The final result is, that these heads, owls, &c., become less and less like the natural forms, owing to the great diversity of application in words having no suggestive relationship with the original living type; the characters are at length transformed into mere signs, requiring much less skill and trouble in their delineation than the natural objects, and hence of far greater practical value. The Hebrew alphabet is very similar, every letter being also a word expressing some simple object: thus, jod, or J, signifies a hand; daleth, or D, a door; beth, or B, a house; gimel or G, a camel. The utility of the alphabet being at once obvious and complete, the knowledge speedily spread, the Phœnicians, Jews, and Arabians rapidly adopting it, and in turn imparting it to the Greeks and Romans; while these two latter warlike and colonising people spread the invaluable discovery wherever their arms penetrated; and it was through the subjugation of Britain by the Roman power that the knowledge came to ourselves; in our case, no experimental stages being gone through, as our ancestors had but to adopt the completed labours of others. The Chinese have ever rejected the knowledge, and in their pride and isolation decline to believe that the outer barbarians can teach them

anything; hence he who would attain to even the rudiments of their language must first master the significance of some hundreds of characters.

At first all inscriptions were in capital letters; the next improvement was the introduction of writing characters. Long, however, before men wanted to make private memoranda, or cared for any such facilities of writing, they desired to put up triumphant records of victories won, to mark the resting-places of their heroes, or to inscribe their statues with their names.

Themistocles, about 500 B.C., we read in Herodotus, sent a letter on stone slabs to the Ionians. The Mosaic law, it will also be remembered, was inscribed on two tables of stone. Solon is said to have published his laws by having them carved on large blocks of hard wood.

The Scandinavian nations ascribe to their great god Odin the invention, and gift to them, of writing characters; these early characters are termed Runic, from the old Gothic word rune, to cut, or ryn, a furrow, thus clearly pointing to their incised nature. Our own capital letters have gradually undergone a change, but our readers will still see that their general characteristics render them very suitable, from the straightness of their lines and the clear boldness of the forms, for cutting on the hard surface of stone or the still denser granite. Many of those whom we address have doubtless carved their names or initials on the tempting surface of some fine old beech-trunk.

"Not a beech but bears some cipher,
Tender word or amorous text."—Luis de Gongora.

This carving was no doubt done in capital letters; and the advantage of straight-lined letters, like L, H, F, K, or T, was at once felt, as they were at once easier to do, and looked better when done, than curvilinear letters, like S, B, O, or P. In early work these latter characters were frequently made straight-lined; thus O was made of four straight lines, like a square standing on one of its angles. This may be seen in the Saxon inscription, Fig. 148. A good example of the value of rectilineal forms for inscriptions may be seen in Fig. 203, taken from the pedestal of an old classic statue. If our readers will take the trouble to write the same name, Possidippus, in our ordinary English writing, they will at once see how suitable the one set of characters is for carving on stone, how appropriate the other for writing with a pen, and how very unfit either would be to take the place of the other. As a rule, where inscriptions have to be carved in stone or marble the forms are straightlined and distinct; where modelled in softer material, like plaster or wax, a greater freedom is allowed, as in Fig. 218, a Cufic inscription from plaster-work; and where written on a smooth surface, like parchment or paper, the greatest freedom of all. This latter is known technically as cursive writing, from the Latin verb curro, I run; and we still in ordinary speaking call it a running hand.

Many substances have from time to time been used for writing on, and have more or less influenced the forms of the characters employed. Brass, lead, wood, ivory, wax, the leaves of palm and other trees, the fibre of the papyrus and of many other plants, and the skins of animals, have all at various periods been employed. The value of the substances in some cases, the great risk of wilful or careless obliteration in others, has led to the destruction of many things that would now be of the greatest historic and literary value. This has been more especially the case with parchments, a great many MSS, being what is technically termed palimpsest—i.e., written over some other obliterated work. Attempts have been made to rescue some of these earlier writings from destruction. A cardinal, Angelo

Mai, who was born in 1779, threw himself into this labour and research with especial zeal, and gave back to the world many writings that had hitherto been considered hopelessly lost. A very interesting account of his work may be found in Wiseman's "Recollections of the Last Four Popes." The interest of the subject justifies us, we think, in giving an extract, as it will illustrate at once the difficulties to be overcome, the triumph achieved. and the great value of the result to literature. "The writer of the Middle Ages had taken down from the shelves a work which he considered of small value (perhaps there were some duplicates of it) -some letters, for instance, of a heathen emperor to his tutor-and had scrubbed, as he thought, the parchment clear both of its inky and moral denigration, and then had written over it the recent production of some favourite author. It is this underwriting that Mai scanned with a sagacious eye; a wash of gallic acid revived the pallid reed-strokes of the earlier scribe; ingenuity, patience, learning, and immense perseverance were requisite for the process. Often only unconnected passages were found—half a sentence in one page which the next did not continue, but the rest of which, perhaps, he found in another MS. Sometimes portions of various works were jumbled together under one later production, upside down, back to back; while perhaps not one page contained the 'Incipit,' or the 'Expliciter feliciter liber I. de-,' so as to give a clue to what these fragments contained. Learning was then indeed necessary, for conjecture often gave the first intimation of what had been discovered, from the style, or from the sentence having been fortunately embalmed or petrified by quotation in some later author. In this way did Mai labour on looking through the tangled mass of confused materials, catching up the ends of different threads, and pursuing them with patient diligence, till he had drawn each, broken or perfect, as it happened to exist. He began in 1813, and continued till 1819, to pour out an unintermitting stream of volumes, containing works or portions of works lost, as it was supposed, irrecoverably. Various orations of Cicero; the lost writings of Julius Fronto; unpublished letters of Marcus Aurelius, Antoninus Pius, Lucius Verus, and Appian; fragments of speeches by Aurelius Symmachus; the history of Dionysius of Halicarnassus from the twelfth to the twentieth book; inedited fragments of Philo; ancient commentaries on Virgil; two books of Eusebius; the Itineraries of Alexander and of Constantius Augustus, son of the Emperor Constantine; three books of Julius Valerius on the actions of Alexander the Great; the sixth and fourteenth Sybilline books; finally, the celebrated Gothic versions by Ulphilas, of St. Paul, and other parts of Scripture. Such were the principal works recovered and published, with notes, prefaces, and translations, by this indefatigable scholar at the period just mentioned, six years. It was a work in which he could have little or no assistance from others; in fact, it was an art exclusively his own." In many of our old churches the monumental brasses are found to be palimpsest; the sheet of metal has been turned over bodily, and a fresh effigy engraved, in defiance of all earlier rights of property, on the fresh surface thus presented.

The Assyrian arrow-head character, Figs. 210, 227, is an especially good illustration of the rectilinear type of letter. Abundant examples of it may be seen on the sculptures from Nineveh, preserved in our national museum. The Assyrians had also a cursive style of writing, but of this, as may naturally be imagined, when we compare the durability of parchment with stone, there are very few examples known. A manuscript in cursive Greek has been found in Egypt, and by learned antiquaries ascribed to the third century before Christ.

From the great ease with which clay can before baking be stamped or scratched, and

the equal certainty that after it has passed through the fire any devices stamped or painted upon it remain an imperishable record, a considerable use has been made from the earliest times of these methods of transmitting the knowledge of any special matter, as for the conveying to posterity of the name of any monarch under whose rule any great structure was erected; thus the sunburnt bricks so extensively used by the Egyptians were made at the Government works, and stamped with the name of the Pharaoh then reigning. The Assyrian and Rabylonian sovereigns caused their names to be in like manner impressed upon the bricks before they were burnt. The Assyrian Government potter was also largely employed in the fabrication of cylinders, or hexagonal prisms of clay. These were stamped all over, in the curious wedge-shaped characters of Assyria, with the Government records. About ten thousand of these singular records were found in the palace at Kyonjik, built by Sennacherib about B.C. 702. Some hundreds of these are now preserved in the British Museum, the Louvre, and other national collections; many have been translated by experts, and found to possess historic details of the highest interest and value: thus, to mention one example alone, we have the history of Sennacherib's campaign against Judæa. His defeat is naturally not dwelt upon. The passage runs thus:- "Hezekiah, the King of Judah, who had not submitted himself to my authority, forty-six of his principal cities and fortresses, and villages dependent on them of which I took no account, I captured, and carried away their spoil. I shut up himself within Jerusalem, his capital city. The fortified towns and the rest of his towns which I spoiled, I severed from his country, and gave to the kings of Ekron, Ascalon, and Gaza, so as to weaken his power. Over and above the former tribute imposed upon these countries, I added a tribute the nature of which I fixed." Roman tiles frequently have the date of their manufacture stamped upon them in bas-relief, or the names of the consuls at the time in power. The Roman soldiers were employed during times of peace in potting, road-making, or other useful labour. The bricks made by the military generally have the name and title of the legion or cohort or its commander stamped upon them in an abbreviated form; thus those that are found in the numerous excavations made for building purposes in the City of London are frequently stamped with the letters P. P. R. B. LON., an abbreviated form of Proprætor Britanniæ Londinii. Others have P. C. B. LON., Prima Cohors Britonum Londinii ("The first cohort of the Britons, stationed at London"). In more modern times this custom of placing upon some part of the object not exposed to view a distinctive mark has continued in force; thus the Dresden porcelain of the royal factory at Meissen has two crossed swords, while the ware produced at the celebrated Chelsea works was marked with an anchor; that of Derby had a D, surmounted by a crown; while the ware of Swansea has a trident upon it.

The Egyptians recognised three kinds of writing—the hieroglyphic, demotic, and hieratic. Into the nature of these last our space forbids our entering; but it is with the first alone that we, as ornamentists, have to do, since it is in that character the records on the temples, obelisks, and tombs are carved. It was the sacred writing, being devoted to the service of the priests, and its name derived from two Greek words, signifying sacred, and to carve. We here present our readers with three illustrations of its character. Figs. 208 and 221 are the name and title of Amunothph II., the Pharaoh conjectured to be the monarch who perished, together with his army, in the Red Sea. He ruled over Egypt 1,500 years before the Christian era. We may mention in passing that the word Pharaoh, applied in the Bible to the sovereigns of Egypt, is simply a royal title, being derived from two Egyptian words, pa-Ouro, "the king," and does not in itself suffice to indicate any particular ruler. Fig. 204

is a still more interesting illustration of this use of hieroglyphic writing. It is represented on the walls of one of the magnificent palaces built in ancient Thebes by the Pharaoh Shishak, and the ruins of which still exist. On one of the walls a grand triumphal ceremony is sculptured, the victorious king being represented as presenting before his gods the captive rulers of thirty conquered foreign states. Amongst these prisoners of war the subject of our figure occurs. The inscription, it will be noticed, is surrounded by a turreted ring, implying a fortified city; while the hieroglyphics therein enclosed read Ioudaha Malek, "the King of Judah." Turning now to the twelfth chapter of the Second Book of Chronicles, we may read a little more about this Egyptian sculpture. We find as follows:--"And it came to pass, when Rehoboam had established the kingdom, and had strengthened himself, he forsook the law of the Lord, and all Israel with him. And it came to pass, that in the fifth year of King Rehoboam Shishak King of Egypt came up against Jerusalem, because they had transgressed against the Lord. Then came Shemaiah the prophet to Rehoboam, and to the princes of Judah, that were gathered together at Jerusalem because of Shishak, and said unto them, Thus saith the Lord, Ye have forsaken me, and therefore have I also left you in the hand of Shishak." Of this event no mention whatever appears to be made in profane history, and it seems to us a point of no little interest thus to find the Biblical account confirmed by the sculptures of a ruined and long-buried temple in Africa. As some of our readers may not know how men like Champollion and Dr. Young have thus been able to reveal these ancient secrets, a few words of explanation may not be out of place. In the reign of Ptolemy Epiphanes, B.C. 196, the priests made a decree dwelling on his kingly virtues, his piety, and noble qualities, and ordered his statue to receive like homage with that given to the gods themselves; and to the intent that the edict might be more widely known, and therefore more generally obeyed, it concludes with the words, "It is decreed to set up a tablet of stone with letters for the priests, letters for writing, and letters for the Greeks, which proclamations are to be set up in the temples of Egypt on the first, second, and third sides of the pedestal of the statue of King Ptolemy, living for ever, beloved by Pthah, God Epiphanes most gracious." One of these tablets, known from the place of its discovery as the Rosetta stone, may be seen in the British Museum; and it is to this we owe our knowledge of hieroglyphic writing, the Greek inscription being easily readable, and known to be identical with the others, thus affording a basis from which to work, a clue that patient industry and critical scholarship have not been slow to take advantage of. The inscription, as is usual in Hebrew and other Eastern writing, must be read from right to left, the reverse of our own custom. The Assyrian arrow-head inscriptions also read from right to left, while their cursive writing, like our own, reads from left to right.

Some of the earliest Greek monuments are curious on account of their boustrophedon inscriptions: the lines running alternately from right to left, and then from left to right, the eye moving, as the technical Greek term implies, like an ox ploughing -passing up one furrow and down the next. Fig. 225 is an illustration of this peculiar character.

Inscriptions on early coins are frequently wrong in direction, but this has arisen from want of foresight on the part of the moneyer, allowance not having been made for the reversal that of necessity follows when the coins are struck, as in the case of the types of the printing-office or the device on a seal, more familiar examples, possibly, to some of those under whose eyes these remarks may fall.

The follower of ornamental art should not be content to be a mere blind copyist of other

men's labours, nor feel lack of interest in all that does not palpably bear upon his work; hence the true ornamentist should be also a botanist and lover of nature in all its forms, adding to these natural studies an intelligent interest in the works of his predecessors. Archæology, the study of the past, is a subject not unworthy of the attention which it has more especially in modern times received, for though at first sight a collection of broken pottery and apparently worthless fragments of stone or metal may seem but of little interest, and the accumulation of them a matter too trivial for any expenditure of time or labour, it has nevertheless a deeper interest attached to it than appears on a cursory glance; for as the zoologist or botanist, while studying the varied forms of nature, so beautiful in themselves, so admirable in their manifest design, feel impelled to look "from nature up to nature's God," and to join the glad pæan, "The Lord is good to all: and His tender mercies are over all His works. All Thy works shall praise Thee, O God: and Thy saints shall bless Thee. They shall speak of the glory of Thy kingdom, and talk of Thy power. To make known to the sons of men His mighty acts, and the glorious majesty of His kingdom. Thy kingdom is an everlasting kingdom, and Thy dominion endureth throughout all generations"-so the archæologist, musing over his fragmentary remains, may see no less the wonderful workings of an overruling influence in all the mighty changes that have taken place in the history of man's dominion on the earth; indeed, if it be true that "the proper study of mankind is man," little more need be said in justification of such a pursuit, since archæology, in contradistinction to botany, astronomy, geology, and other natural sciences, dwells exclusively upon the footprints yet remaining of the bygone generations of humanity, recalling from the dust of centuries the pursuits of men of like passions with ourselves, awakening within our minds an essentially human sympathy, a recognition of the great brotherhood of man.

Inscriptions enter very largely into the ornament of the Moors. The quaint forms of the Cufic character, and the medium in which the designs were produced—a plaster easily manipulated either by cutting or modelling—led to great richness of detail and effect, and the strict commandment imposed on all Mohammedan races by the Koran, not to make the picture or image of any created thing, still further tended to render their decorations largely dependent on the ingenious interlacing of inscriptions. The Mohammedans are divided into four orthodox sects, called *Sunnees*, and others who, like the old Spanish Moors and the Persians, do not so strictly in many ways regard the commands of the prophet. We

shall, however, confine our remarks to examples seen in the Alhambra.

The Alhambra, deriving its name from the arabic Kal-'at al hamra, "the red castle," was the great fortress-palace of the Moorish rulers of Granada. The stern grandeur and massive simplicity of the exterior is in marked contrast to the delicate beauty of the palace within, where all that luxury could suggest or the most refined art could effect ministered to the gratification of the conquerors. The buildings were commenced by Ibnu'l Ahmar in the year 1248, continued throughout the whole reign of Abu Abdillah his son, and completed in 1314. Time and wanton destruction, combined with repeated whitewashing and so called restorations, have now destroyed much of the original character, though enough still remains, even if of fragmentary character, to testify to the former beauty of this great bulwark of the Moorish power in Spain.

We have selected the Alhambra in preference to any other building, as our readers will probably be more or less familiar with its character, owing to several elaborate accounts that have been published respecting it, and also to the admirable reproduction of parts of

it at Sydenham; while its unorthodox character is not sufficiently marked to prevent its being, for our present purpose at least, a good example of Mohammedan art. It would be impossible, without the aid of colour and large and elaborate drawings, to show clearly how completely the interlacing letters are incorporated and made part of the original effect. The following examples will, however, at least give some idea of the character of the sentences themselves :-"Praise be given to God: there is no power nor strength but in God;" "O God, Thine is the praise for ever, and Thine are the thanks for ever;" this, the devotional, is the largest and most important class. A second class consists of sentences, not from the Koran, like the preceding, but of general moral tone. One example will suffice-" Be not one of the negligent." A third class consists either of general passages from the poets, or sentences in direct praise of the building they adorn, or of its occupant. They are written in that hyperbolic style so commonly to be found in Eastern poetry; thus in one of the halls of the Alhambra the following occurs:—" Every art has gifted me with its elegance, nay, has given me all its splendour and perfection; indeed, when the spectator has attentively examined my beauty, he will find reality to exceed the most extravagant conceptions of his fancy. He will see the full moon beam forth from my light, and its halo leave me to enter the mansions of the sky. I was built by the Iman Ibn Nasr. May God uphold his majesty as an honour to other kings, and perpetuate his glorious rank as long as, like the sun or the full moon, he continues to rise in the high region of the sky, mercifully to scatter the shadows of injustice and oppression. If the planets quiver in their orbs, it is through dread of thee; and if the branches of the Oriental willow bow down, it is perpetually to be thanking thee." Some of the inscriptions in the Alhambra are in the cursive Arabic character; an example of this is given in Fig. 213. It is a good instance of the influence that materials exercise over writing forms, the Arabic characters, like those of most other Eastern languages, being written with reeds. If any of our readers will endeavour to reproduce it, by the aid of an ordinary steel pen, they will realise at once the difficulty of obtaining those flowing lines and massive strokes that follow so naturally from the use of the reed.

Before the invention of the printing-press, when all books whatsoever were written or reproduced by the hand of the scribe, one book being often the patient labour of many years, the desire for abbreviation and saving of work led to the running together of letters by one stroke of the pen; the word or symbol thus formed being termed a monogram, from the Greek words monos, one, and gramma, a letter. The word is not, however, now used in so exact and limited a sense, the term being applied to the ornamental grouping of two or more letters, as in the designs, Figs. 209, 211, within the quatrefoils. Other examples may be seen in Figs. 223, 224, and in the three treatments of the letters F E H, seen in Figs. 229, 230, and 235.

Monograms and abbreviated forms of words, though a great economy of time to the writer, are afterwards frequently a source of confusion. Many instances of this occur in old MSS. A notable example is seen in Romans xii. 11, where the words rendered "the Lord" are in three MSS. read as "the time," the contraction used being such that it would do for either reading equally well. A great use of abbreviations is met with in MSS. of the Anglo-Saxon period. In reading them the context often requires to be attentively studied, as the same letter or sign often has very different meanings; thus P. may mean Pater, or perhaps Pontifex; while the plural is often expressed by a doubling of the letter, as O. O. for omnes, or D. N. N. for domini. Many other examples may be found in Forsyth's very interesting "History of Ancient Manuscripts," and other works of a like character.

Early inscriptions are generally unpunctuated, or have each word separated from those that precede or follow it by a simple stop, as in Fig. 148. Occasionally the words are run together without any interval between them. These peculiarities, added to the great use of abbreviated forms, amply suffice to render the task of deciphering old writings a by no means easy one. As an illustration of the running together of words, we have in Fig. 147 a portion of an inscription from Deerhurst Church, Gloucestershire. The inscription, which is in Latin, is to the following effect:—"Earl Odda ordered this royal building to be built and dedicated to the honour of the Holy Trinity for the soul of his cousin Ælfric, who died here. Eaddred, bishop, dedicated it on the 3rd of April, in the 14th year of Saint Edward, King of England." Our figure gives the beginning of the inscription—"Odda dux jussit"—only the first letter of the last of these words being within the illustration. The stone, dug up on the site of the chancel, may now be seen amongst the Arundel marbles, Oxford.

A cipher differs from a monogram in that the letters are repeated and reversed, so as to form a bi-symmetrical or multi-symmetrical composition. The large illustration, Fig. 231, is an example of this. The three intersecting C's in Fig. 214 form a good example of a multi-symmetrical cipher: it is taken from a biberon of Oiron faience, or, as it is often termed, Henri Deux ware. A certain amount of doubt exists as to the meaning of the form, but it is generally concluded that it is the initial letter of the queen, Catherine de Medicis; an undercurrent of meaning connecting the crescent form with the Duchesse de Valentinois, better known as Diana of Poitiers. Fifty-five specimens only of the ware are known to exist, and almost all have this cipher upon them; of these, twenty-five pieces are in English collections, twentynine in France, and the remaining one in Russia. The cipher, Fig. 238, formed by the crossed L's, and the more curious than beautiful form, Fig. 205, made by putting two L P's back to back, are taken from examples to be met with on the back of Sevres porcelain; the first being on china, made, as the cipher indicates, during the reign of Louis XVI., the two C's standing for the date 1780, according to a method pursued for marking when the pieces were produced; and the second during the sovereignty of Louis Philippe. Those who are curious in such matters, and willing to pursue the subject at greater length, may find many valuable examples of monogram and cipher forms on old deeds, buildings, stained glass, and coinage; we have here only space to indicate a few of these. Many of the early monograms are very confused in arrangement, and barbarous in treatment. Of these, Fig. 222, from a Bull of Pope Innocent III., A.D. 1214, is no bad example. The original is in the British Museum. Other grotesque examples may be seen in Figs. 223, 224. In the first of these, taken from a gold coin of Mary of Scotland, the letters of the words "Maria Regina" occur; the second, composed of the letters "F. M.," is from a testoon struck during her marriage with Francis II. of France.

On early deeds and mural inscriptions we frequently find the subject-matter prefaced by a cross, as in Figs. 147, 148, the idea involved being dedicatory, the significance "In the name of God." Amongst the Hindoos the equilateral triangle is the symbol of Siva the Destroyer, and all detached hills of conical form are regarded with reverence as the natural symbols of that god. Obelisks and pyramids were thus employed, with symbolic meaning, by the Egyptians, and were shown in the paintings and sculptures by a form like the letter T upside down. This same T-like form, but not reversed, was the symbol of eternal life, and as such was borne by Thoth. The Greeks adopted it in a similar

sense, and the early Christians of Egypt at first used it instead of the cross, which was afterwards substituted for it, placing it at the beginnings of inscriptions, as we have seen that the cross was at a later date used. Sir Gardiner Wilkinson, in his book on Egypt, speaks of numerous inscriptions headed by the "tau," as this form is called which are still preserved in early Christian sepulchres throughout Egypt and the great Oasis; and it has been urged, with at least great probability, that this symbol of life was the form made by the Children of Israel in blood upon their door-posts when the Angel of Death passed through the land of Egypt to smite the first-born of the nation. The tau form of cross is in like manner to be met with in the catacombs of Rome, and the earliest Christian churches were built of this shape in ground plan. Old rings are occasionally to be seen marked with the tau, a mystical virtue being attached to it, as in company with the word ananizapta, a Chaldean word which, being translated, means, "Have mercy on us, O Judge," it was thought to be a most powerful prophylactic against epilepsy. The tau, we have seen, was succeeded by the cross, and this in turn frequently gives place to a monogram, the significance remaining the same. We have, in Figs. 215, 216, sketched two examples from charters in the British Museum: one drawn up in the reign of Edgar, A.D. 961, the other in the reign of Canute, A.D. 1031. The monogram is composed of the first two letters of the Greek word for Christ. It is the form which is said to have appeared at noonday in the sky, outshining the sun in its splendour, before the heathen emperor, while a voice was heard to say, "By this sign shalt thou conquer." Assigning any value we please to this legend, the fact, at least, remains that Constantine did receive some sudden shock to his old superstitions, and that, joining the Christian Church, he henceforth removed the old Roman eagle from the standard of the legions, placing in its stead the sacred monogram. It was also, until the fifth century, stamped upon the Imperial coinage. It is found on the resting-places of martyrs of the reigns of Adrian and Antonine, as early as the second century after Christ. Some of our readers may, perhaps, without knowing why, have been in the habit of writing Christmas as Xmas; they will now see the origin and meaning of the X, standing as an equivalent for Christ.

It is very curious that this form of monogram should have been in later times so completely supplanted by the I.H.S. with which we are so familiar. Both refer to the same person, both are equally expressive, and the former one is the easier, in its simplest form, as in Fig. 159, to carve or paint. The I.H.S. is formed by the first three letters of the Greek word for Jesus. It is often supposed that the letters stand for the initials of the Latin words, Yesus Hominum Salvator, "Jesus, the Saviour of men," but this is not so; though, alike ingenious, appropriate, and beautiful, it is an afterthought, and not the original intention.

Monograms on Coinage.—The earliest British example, with which we are familiar, is on a coin—a penny—of the Mercian king, Offa, A.D. 757. Fig. 226, a Saxon coin, though not of monogrammatic device, falls within the scope of our remarks, as the device is formed by letters, a series of four F's, probably the initial of the moneyer who struck it. Some of the farthings of Queen Elizabeth have her monogram upon them, surmounted by the regal crown. The result is not, however, very successful, as the designer has endeavoured to get in all the letters of her somewhat lengthy name, and thus clearness is lost. On a fourpenny-piece of Charles II. we met with a series of interlacing C's, identical in design with the figure seen at No. 214, though from each letter, instead of being

crescent-shaped, being of the same width throughout, the effect of the whole is somewhat different. On other coins of the same king, as in the twopenny-piece represented at Fig 228, two C's back to back are met with. Charles X., of France, employed a similar form as his monogram. On the half-crown of William and Mary we find the form represented in Fig. 217. It is curious to notice that while, at first sight, the eye is satisfied of the presence of both the W and the M, on closer scrutiny it will be perceived that neither letter is really complete.

Inscriptions on Coinage.—In addition to such prosaic statements of fact as the value of the piece, or the reign and year in which it was struck, we frequently meet with examples of a higher order adorning the coin, not merely from the beauty of the characters, but from the grace of the idea conveyed, while others again have great historic interest. The following are a few inscriptions out of many that might be brought forward: Agnus Dei, qui tollis peccata mundi, miserere nobis, "Lamb of God, Thou that takest away the sins of the world, have mercy upon us," is found on the golden lamb, or mouton d'or, of Henry V., a coin so-called from the device it bore. Christo auspice regno, "I reign under the auspices of Christ," is very appropriately found on the coins of Charles I., a firm believer in the divine right of kings. Decus et tutamen, "An ornament and a defence," placed round the rims of coins, is at once an embellishment and a protection against clipping and filing. His differt rege tyrannus, "In these the tyrant differs from the king," is a motto found on the coinage of James VI., of Scotland, and refers to the scales and sword of justice borne on the centre of the piece. Mene techel peres, on a coin struck for Perkin Warbeck, is an evident attempt to represent himself as playing the part of Darius, Henry VII., like Belshazzar, having, it is implied, been weighed in the balances and found wanting. Rosa sine spina, "The rose without a thorn," a motto found on the coins of the Tudors, points to the alliance of the rival houses, and the happy termination of civil strife. Inscriptions of a distinctly religious cast are very numerous. Omitting, for brevity's sake, the original Latin; the following are illustrations: "The Lord is my strength and shield, my heart shall trust in Him;" "God is a just, patient, and powerful judge;" "Let God arise and let His enemies be scattered;" "By Thy cross, save us, O Redeemer, Christ;" "Blessed be the name of the Lord;" "The fear of the Lord is a fountain of life."

Pictures are often marked by the artist with his monogram; we must here only refer to one characteristic example, the "A. D." affixed by Albert Durer to his work. While possessing, Fig. 219, one advantage-clearness-it errs in another direction. If any letter in a combination is made larger than the rest it should be the most important initial that is thus distinguished. In Dürer's monogram the A of the Christian name is far more conspicuous than the D of the surname; had he placed the A within the D, instead of about it, the result would have been better. John Thorpe, an eminent architect of the time of Elizabeth, left behind him some hundreds of drawings of the various buildings in which he had been concerned. These drawings are carefully preserved in the Soane Museum, and amongst them may be seen a plan in the form of Fig. 220, and beneath it the following: "These two letters, I and T, joined together as you see, is meant for a dwelling-house for me. John Thorpe." No doubt the result, if carried out, would have been a mansion at once commodious and picturesque, though the motive guiding the planning is almost as grotesque as that of the Escurial, which, being dedicated to St. Lawrence, who suffered martyrdom by being roasted on a large gridiron, is built in the form of that useful aid to the culinary art, the bars being represented by lines of building, and the feet by four little towers at the angles, the architect being of necessity obliged to turn his gridiron upside down.

Many of the "merchants' marks," as they are termed, are monogrammatic in character. They were largely adopted in mediæval times by those who, not being of gentle birth, were forbidden to bear arms. The two examples given in Fig. 207 are from stained glass in the South Kensington Museum, and are represented on shields like the more orthodox heraldic charges. Fig. 202, a branch letter, and Fig. 212, a ribbon letter, are given as two examples of the various modifications of letter-form indulged in by the later illuminators, while the earlier masters of the art frequently employed grotesque animal forms—the lizard, fish, or serpent—entwining them into the shape of the required letters.

A great use was made of inscriptions during the Middle Ages as an element of decoration; thus, at Templenewsam House, near Leeds, the following is carved round the three sides formed by the front and wings: "All glory and praise be given to God, the Father, the Son, and the Holy Ghost on high; peace upon earth, goodwill towards men; honour and true allegiance to our gracious king; loving affections among his subjects; health and plenty within this house." Wedding rings generally had a posy, as it was termed, engraved on their inner surface—"In Christ and thee, my comfort be." "God alone made us two one;" "Where hearts agree, there God will be;" "Seithe God hathe wrought this choice in thee, so frame thyselfe to comfourth me;" "Careful I'le be to comfort thee;" "As true to thee as death to me;" "As God decreed so we agreed;" "Let us share in joy and care;" "A faithful wife preserveth life;" "United hearts only death parts." Several of these posy rings may be seen in the South Kensington Museum, and it is from these that most of the sentiments just quoted are taken.

Church-bells frequently have inscriptions upon them. Many of these are very curious. A very few instances must, however, suffice as illustrations:—"When I do call come serve God all;" "My roaring sounde doth warning give, that men cannot heere always lyve;" "I ring to sermon with a lusty boom, that all may come and none may stop at home;" "I sweetly tolling men do call to taste of meats that feed the soul;" "All people rejoice when they hear my voice;" "A better bell than I is not beneath the sky."

Many heraldic mottoes are exceedingly interesting, and in a brief and pithy way frequently convey much historical information. As these, however, we shall consider in a subsequent chapter, when we proceed to deal with heraldry as a whole, it seems scarcely advisable in this place to further refer to them.

The Eastern nations delight greatly in the use of inscriptions as a feature in their ornament, their houses, weapons, utensils, and furniture being often very elaborately enriched by bands of interlacing conventional foliage or scroll-work, in the midst of which the letters of the inscription are entwined. A very characteristic example of this use of inscriptions is seen in the following one taken from a Malay creese, the formidable double-edged knife, carried, and very freely used, by the people of the Eastern seas:—"No need of dispute or words, for they are useless, this being the end of all disputes, and bringing peace to the mind this shall deliver me instantly from my trouble."

Though in all our examples we have dealt with the past rather than the present, the student must not, therefore, conclude too hastily that the subject is of historic rather than practical interest. A fine idea finely treated will be as welcome in the nineteenth century as in any of those that at longer or shorter intervals have preceded it, and the capabilities and possibilities of this interesting section of art are not by any means exhausted.

Words of wisdom, in a graceful setting, can in but few circumstances be out of place. Having, therefore, now scattered the seed we must be content to let it fructify in its own way, leaving others to reap or cast away as they see fit.

As we have several times already had occasion to refer to Assyrian art, and shall frequently require to do so again, the present opportunity seems a very convenient one to

dwell at some little length upon its leading characteristics.

On entering any of the rooms devoted to the Assyrian remains in our national collection we are at once struck with the immense use made of sculpture. The walls are lined with large slabs that once occupied a similar position in the palaces of Nineveh. These slabs, while decorative in character, are more especially devoted to a record of the great events of Assyrian history. In them we see the warriors of Assyria pursuing the flying foe, besieging him in his cities, or returning in triumph with the captives and spoils of war. . Others detail the greatness of their monarchs, showing them in the fore-front of the battle, pursuing the lion, or enthroned in the palace, surrounded by chamberlains and the great officers of the court. Others, religious in character, represent the homage paid to the gods of Assyria; to Dagon, to Baal, and Nisroch sacrifices are being made, libations offered. Unlike the mural paintings from Thebes, that may be seen in an adjoining room, the Assyrian records throw but little light upon the doings of the common people; for, whereas in the Egyptian remains we see the operations of the vineyard being carried on; the dancing, music, and feasting of social gatherings; the butcher cutting up his joints; wrestlers and acrobats giving their performances; criminals and laggards being bastinadoed; poulterers plucking their geese; the jeweller with his blow-pipe; the carpenter, glue-pot on fire, veneering a slab of wood; the potter at his wheel; women weaving; the baker; the shoemaker; the farmer; the fowler; all surrounded by the instruments of their callings, and engaged in their daily work, in the Assyrian remains we get little or no insight into the national life. The Assyrian sculptures deal exclusively with the national greatness, as shown in courts and foreign conquests, and record the deeds of monarchs and warriors alone. Little of what we may strictly term ornament is visible in these remains. The sovereigns and great counsellers, cup-bearers, and other court functionaries, are clothed in richly embroidered and heavily-fringed robes, and frequently wear armlets, bracelets, and necklaces of beads. But all these details, from the smallness of scale, the bold manner in which they are treated, and, above all, from the ravages of time, afford but little information. The bracelets almost invariably have a central patera, or rosette form. The term patera, in its primary signification (Latin, pateo, to lie open), is applied to an open vessel resembling a broad flat dish or saucer, used by the Greeks and Romans in their sacrifices, the blood of the victim being collected in it for the necessary libations. The term patera is hence, in a secondary sense, applied to any foliate or floral, flat or concave circular form, whether painted or carved. The patera form is most commonly met with in Assyrian, Classic, Renaissance, and Gothic ornament. In the three latter a very considerable variation of treatment is met with; while the former examples, though numerous, have a very strong family likeness to each other. Many examples may be seen on paving-bricks in the British Museum, as in Figs. 234 and 239, the former from the North-west Palace of Nimroud, the latter from Baashickhah; others from the sculptures are shown in Figs. 243 and 245. The depression in the centre of each member in Fig. 243 is curious. It would appear to have been suggested by the similar effect so easily produced on clay vessels before baking, by the pressure of the finger. To illustrate our meaning

better we have represented, in Fig. 232, a little Assyrian vase, where the depressions have clearly been thus produced while the material was plastic. The Assyrian pottery furnishes numerous examples of this, patterns being produced on it either by these rounded depressions or by more sharply cut forms made by some instrument; characteristics by no means, however, confined to the pottery of this people, but seen almost universally in a certain stage of the ceramic art. Fig. 237, a vase of early British manufacture, is an especially good illustration of this, as in it we get the union of both methods, the lower portion being decorated by soft and rounded depressions, and the upper cut in sharply defined lines. The anthemion is another exceedingly characteristic Assyrian form. The term anthemion, derived from the Greek anthos, a flower, is applied ornamentally to a radiate form like that shown in Fig. 242. The anthemion form is sometimes called the honeysuckle ornament, and in some few Greek examples is not unlike a cluster of buds of that plant; but in the natural plant the largest buds form the outer rings, the forms gradually becoming smaller and smaller as we approach the centre. The anthemion form is directly the reverse of this. Apart from this the form is seen in styles that draw little or no inspiration from floral beauty, as in the present, and in the ornament of far-off lands where the honeysuckle is unknown. Like the patera, the anthemion form, no doubt, springs from the perception of the inherent beauty of radiate forms; in the first case star-like, and pleasing by simple repetition, like the forms seen in the kaleidoscope; and in the second case radiating like a fan, having its halves only alike, and pleasing to the eye in the gradation of the forms, and their due subordination to the central member, a feature very beautifully seen in nature in the leaves of the horse-chestnut. The great use made of the patera and anthemion forms in Assyrian art is very well exemplified in Fig. 245, a portion of a pavement, where the whole effect is produced by alternate rows of modifications of these two typical forms. A further curious example of their use is seen in the details of Fig. 240, a branch borne by one of the priests represented on a mural slab. It will at once be seen that in this the stellate and fan-like forms are the chief elements. It is, we think, instructive also as showing how, without bare and mechanical repetition of its halves, the general effect satisfies the eye by its balance.

Examples of the patera form, in addition to the Assyrian examples already referred to, will be seen in Fig. 258, a piece of wood-carving from an old chest; in Fig. 261, from an Indian textile fabric; in Figs. 267 and 268, Greek illustrations; in Fig. 266, a piece of fourteenth century work, German, from Coburg Castle; in Fig. 269, a piece of Romanesque ironwork; in Fig. 270, a rosette from Henry VII.'s Chapel; in Fig. 339, Norman work and in Fig. 398, a piece of ornament from a Greek vase.

Examples of the anthemion form will be found on Plate XXIII. The central figure, 349, together with Figs. 350, 351, are illustrations of the natural growth of the honeysuckle. Fig. 345 we find on an African calabash. The arrangement of the two dark lobes on the light ground, and of the light lobe on the darker portion, is a curious and suggestive feature. Fig. 346 is from a Romanesque string-course. Figs. 347, 348, are Italian Renaissance examples. The remaining three on the plate, Figs. 352, 353, 354, are from Greek vases in the national collection. Fig. 362 is an Indian example stamped in silver on the base of an idol; Fig. 365, a piece of Spanish embroidery; Fig. 366, a carving on some French Renaissance furniture in the South Kensington Museum. In Fig. 402, a treatment of the pink, from a Persian plate, a very anthemion-like character is given—a character, however, that the general growth of the natural flower is sufficient to justify.

The guilloche is a third characteristic Assyrian form; we have already, however, in our opening chapter dwelt on its nature, and any further remarks are now needless.

With the exception of the lotus form, no doubt borrowed from Egypt, and a cone or pine-apple form that frequently recurs, the ornamental details do not appear to have been based on any natural type; though on the sculptured slabs, where the treatment is picturesque rather than decorative, some few daisy and lily-like flowers are introduced in the foregrounds of hunting and such-like scenes, with considerable freedom and appreciation of natural growth and character; botanical features, like the alternation of leaf-growth, seen in most of our own plants, or the sheathing of the iris foliage, being evidently considered.

The Assyrians, like other Eastern nations, made a great use of colour, and sufficient indications yet remain to convince us that even the large sculptured slabs were richly painted and gilt; the colours of which, from their mineral base, we now possess the knowledge, were blue, red, yellow, green, black, and white; and, as large quantities of gold-leaf are met with in the ruins, we may justifiably add gold to our list. Many of the fragments of bricks yet retain very clearly both the form and colour of the simple designs painted upon them. A curious use of violently contrasting colours is often met with; thus in the large anthemion, Fig. 242, the central form is cut sharply up into segments alternately black and white. The same treatment is seen in some of the lateral members; those alternating with them being of a dark, dull yellow. We see other examples of the same characteristic feature in Figs. 241, 244. The character of Assyrian art is distinctly zoomorphic: it deals almost exclusively with animal life; of phyllomorphic, or foliate form, there is little or none, such ornament as there is being arbitrary in character, and if suggested by natural forms at all, so remotely resembling them as to fail to appeal from any such associations to the eye. We have already, in our paper on the symbolic use of animal forms, referred to the eagle-winged and human-headed lions and bulls of Assyrian art and mythology; we need not, therefore, here dwell further upon them than again to remind our readers how large a part these figures play in the palace-temples of Nineveh.

One very singular feature in Assyrian art consists of the immense use made of inscriptions. These inscriptions are not placed beneath the slabs to which they relate, but line after line right over the surface, quite irrespective of what they cross. The subject was evidently first sculptured, and then along the whole face of the work a broad band of descriptive matter was thrown; the effect where it crosses the mane of a horse, or, Fig. 210, the embroidered robe of the monarch, being somewhat confusing. The story of the gradual translation of these inscriptions is one full of interest, not only as a triumph of zeal and learned acumen, but also on account of the extreme importance of the records thus brought to light. We have already given an example of these characters, and anything more mysterious it would be difficult to conceive. Various terms are applied according to the fancy of the describer: thus in Germany it is known as keilformig, French antiquaries call it tête-à-clou, while English writers use the terms cuneiform, wedge-shaped, or arrowheaded. Though this cuneiform writing is now almost entirely associated in our minds with the records of the Assyrian Empire, it was at one time, under slight modifications, used throughout the greater part of Western Asia-a most fortunate circumstance for our antiquaries, and one without which the signs must ever have remained a mystery. The clue was afforded, as in the case of the Rosetta stone already referred to in speaking of the Egyptian hieroglyphics, by finding tri-lingual inscriptions, records identical in matter,

but in three different characters. The kings of Persia, until the final overthrow of the empire by Alexander the Great, ruled over three principal peoples—the Persians proper, the Tartars, and the people of Babylonia and Assyria; hence the government records were tabulated in the three national languages. The palaces of Darius and Xerxes at Persepolis, and the rock-tablets of Behistun, furnish the most important polyglottic inscriptions yet discovered. The Persian inscriptions, from the small number of signs and the analogy detected between the ancient dialect and the modern Zend and Sanscrit, were after thirty years' patient labour and investigation mastered by Grotefend and Lassen. A young English officer attached to our diplomatic service in Persia, ignorant of the labours of these German savans, but filled with antiquarian zeal, set to work to decipher similar inscriptions, and arrived at a like result. That Col. Rawlinson the Englishman at Bagdad, and Professor Lassen at Bonn, should thus unknown to each other arrive at identical conclusions, is a strong argument in favour of the correctness of the principles of interpretation employed. The patient labour and careful analysis that had laid open the first column were now applied to the second, but in the face of tenfold difficulties, for while the Persian signs were about forty in number, the Assyrian presented some five hundred different characters. Much light, however, has been already thrown upon these dark pages of history.

The antiquity of the Assyrian remains is very great, and it may not be altogether undesirable if we devote the remaining space at our disposal to some little account of the history of the Assyrian Empire. Two sources of information are open to us, the writers of the Bible and the Greek and Roman historians. In the former alone do we meet with distinct information, as the great historians of Greece were not born at the time of Assyria's final downfall; and though they record many traditions of its power and extent, they cannot speak with the authority of eye-witnesses of its glory, like Jonah and other prophets. Going back to a very early period in the world's history, we find that Noah had three sons, and that these again had a numerous progeny. Of the sons of Shem, with the exception of Asshur, no record beyond their mere names is given, but of Asshur it is said that he built several cities, and amongst them Nineveh (Gen. x. 11). Various incidental allusions, as in the prophetic utterances of Balaam, testify from time to time of the growing power of the state. It is spoken of by various writers as "the rejoicing city that dwelt carelessly, that said in her heart, I am, and there is none beside me," as the "fenced place," the "exceeding great city;" and the might of the Assyrians is repeatedly spoken of as the instrument of the wrath of God on the Jews. The first record of strife between those two powerful and neighbouring nations was soon after the division, nearly B.C. 1000, of the Jewish nation into two peoples, the kingdoms of Israel and Judah, when the Jews, weakened by their internal dissensions, offered a tempting prey to their powerful neighbours. Pul is the first Assyrian monarch mentioned in Scripture; he made war upon Menahem, King of Israel, exacting heavy tribute, and reducing the state to vassalage. Tiglath-Pileser received feudal fealty in return for his aid on behalf of Ahaz against the Syrians, but seeing both the richness and the weakness of the Jews, overran the country. Shalmaneser destroyed Samaria, leading into captivity the remnant of the ten tribes, and thus destroyed the kingdom of Israel; while Sennacherib, it will be remembered, made war upon Hezekiah, took Lachish and many of his principal cities, and exacted a tribute of thirty talents of gold and three hundred talents of silver. After centuries of power the glory of Assyria began to decline, and six hundred years before the Christian era it was invaded by Cyaxares with a vast army of Medes

and Persians. Nineveh was utterly destroyed, and the empire fell never more to rise. So complete was the destruction that Xenophon, who marched over its site with his immortal band of Greeks about two hundred and fifty years after, does not even refer to it. Vague tradition fixed its locality somewhere on the banks of the Tigris, but for more than two thousand years it was but a name; for more than two thousand years its greatness had been known, but all sign of it appeared to have vanished from the earth until the labours of Rich, Botta, and Layard revealed, amidst some large mounds of earth in the neighbourhood of Mosul, the long-lost temples of Nineveh. The materials employed-bricks and wood-greatly facilitated the disappearance of the city; the marble slabs were only used as an internal lining to the lower walls; and after the fall of the cedar roofs\* and their destruction by fire,† little would remain but sun-dried brick walls that speedily crumbled into earth again. The falling in of the upper storeys would more than suffice to bury the slabs; and as these palaces were always built on mounds of earth, the sites were soon, no doubt, taken advantage of for defensive purposes; and one of the difficulties attending the recent excavations has been found to be that questions of property arise, that whole villages are built and fields of corn cultivated some few feet above these deeply interesting remains. We cannot here dwell upon these particulars, great as is the temptation to do so; but the works of Layard and Bonomi, detailing these matters, will be found an unfailing source of interest. The writings of Zephaniah, penned some twenty-four years before its fall, of Isaiah, Ezekiel, Nahum, Tobit, amongst sacred historians, and of Justin, Diodorus Siculus, Macrobius, Africanus, Eusebius, Herodotus, Josephus, and several other chroniclers in classic times, also afford much interesting matter for consideration. These latter authors, as we have already indicated, are not so trustworthy as the former; though, in giving form and expression to the traditions of the bygone glory of the lost empire, their writings have a peculiar interest and value of their own.

<sup>\* &</sup>quot;Carved lintels and cedar work;" "Ceiled with cedar and painted with vermilion."

<sup>† &</sup>quot;There shall the fire devour thee."

## CHAPTER V.

Heraldry or Elazonry—Derivation of the Word MSS., Brasses, Seals, and Glass Painting as Sources of Study Rolls of Arms—Pernicious Character of much of the Modern "Restoration"—Devices of the Heroes of Antiquity—Origin of Heraldry—Coats of Arms—Arms of Edward the Confessor—Armoral Bearings of David, Samson, Adam, and Eve—Heraldry, an Incitement to Deeds of Heroism—Seals on Legal Documents—Canting Heraldry—Heraldic Charges—The Language of Heraldry—Tinctures—l'urs—The Varying Terms applied by Old Writers to these in the Arms of Gentlemen, Noblemen, and Sovereigns—Honourable Ordinaries—Early Devices Structural in Character—Naval Signal Code—Subordinaries—Forms of the Cross—Common Charges—The Lion and Eagle—The Cockatrice, Dragon, Wyvern, Griffin, Phoenix, Triton, Mermaid, Sea Horse, Sea Lion, Harpy, Sphinx, Sagittarius, Salamander, and Unicorn—Legends of the Basilisk—Marshalling—Dimidiation—Impalement—Quartering—Aggroupment of Arms—The Shields of War and Peace—Crests—Family Badges—The Motto—The Supporters—The Lihes of France on the English Arms—Marks of Cadency—Marks of Augmentation—Marks of Abatement—Mantling—Value of a Knowledge of the Laws of Heraldry.

HERALDRY or Blazonry has played so conspicuous a part in many periods of art, and more especially throughout the whole series of the Gothic styles, not only in England, but also in France, Spain, Germany, Italy, &c., that a knowledge of at least its elements is an indispensable part of the training of the archæologist or designer, or of any one interested in even a minor degree in ecclesiastical or baronial architecture, illumination, stained glass, monumental brasses, and other such-like features of the past. The herald, in the original and literal meaning of the term, was the shouter; the old French term, "herald," identical with the English, and the German "herold" being derived from the German verb "haren," to shout. It was his duty to challenge to battle, to carry messages between hostile armies, to read the proclamations of the monarch, and finally to proclaim at the tournament the achievements and armorial bearings of the various competitors, while others would "blasen" or blow trumpets, to attract attention and to give additional pomp and grandeur to the ceremonial; hence blazonry or heraldry, in its original sense a public proclaiming, also became of necessity a description and registration of the armorial bearings of those permitted to assume them.

It is impossible to do more than just dwell on a few of the leading points of our subject; we can, therefore, only indicate some few of the more marked features and principles, thus far clearing the way before our readers for their own personal study, pointing out matters of interest and examples to be studied, books to be consulted, making our remarks as far as possible useful and suggestive, but after all, of necessity, leaving much of the hard work to be done by themselves. To those who would desire to work out the present subject at greater length, we would recommend the study of Boutell's "English Heraldry," and Cussan's "Manual," as handy text-books. There are many other books, but the two we have mentioned will suffice to give a very fair knowledge both of the history and practice. Old MSS., brasses, seals, and glass painting will afford many excellent examples for study. The "rolls of arms," as they were termed, that were drawn up by the heralds at any particular battle or siege, of those knights who were present, afford another and very good source of information. Perhaps the most interesting and instructive of these rolls of arms that have been preserved to our day is that which, in a metrical form, records in Norman-

French the siege and capture of the fortress of Carlaverock, on the Scottish frontier, by Edward I., in the year 1300. The banners and shields of the princes, the nobles, and knights engaged are set forth and coloured with minute exactness. Many of the shields are without any device whatever, their distinctive character being produced by some peculiarity in the bands of colour. Such may be considered to be derived from the earliest times, and have generally been deemed of greater honour, as they certainly are of greater antiquity, than the majority of those that bear more complex devices. Early glass, too, possesses a great recommendation—that we see the original colours still preserved. Unlike painted decorations in panels, &c., there is no great risk of its having been touched up, or as it is termed, restored. Restoration should never, it appears to us, be more than is honestly implied in the word—just so much as is alone necessary to preserve the fabric and to avert decay. Instead of this it appears too ordinarily to be considered an opportunity of starting de novo; thus side by side in our cathedrals we may see portions, some white and spickand-span new, elaborately pointed, and with crudely-coloured scroll-work or other ornament, while other portions, from the proximity of the restored work, gain at least additional interest by contrast, as in them every stone has a history, and there is a charm in seeing even the wreck of the earlier decoration that no nineteenth century thirteenth century work can for a moment impart. The iconoclast and the restorer have between them robbed us in many cases of what can never now be replaced. Ancient glass may be, broadly speaking, divided into two great classes—the ecclesiastical, with Scriptural or legendary subjects, to be met with in our cathedrals and abbeys; and the heraldic, emblazoned with coats of arms and other devices of chivalry, to be commonly found in old palaces and halls, both in England and abroad. Many good and easily accessible illustrations of this latter class may be seen at the palace of Hampton Court.

In all ages of the world, so far as we have any record, we see that there has been the desire on the part of nations, tribes, and individuals to distinguish themselves by certain recognised devices or badges or peculiarities of dress (as in the Scottish clans), or by titles. In the Book of Numbers, for instance, we read that the Israelites pitched by their standards, every one after their families, according to the house of their fathers. Virgil and other classic writers refer to the special badges adopted by their heroes and chieftains; thus Astur bears a silver swan, while other shields are distinguished by stars, serpents, or dolphins. In other cases special epithets are employed, which, though of course not in any way heraldic, serve further to illustrate the desire for personal distinction, which was one great motive in the origin of heraldry; such as, in our own history, Edmund Ironside, Richard of the Lion-heart, Edward the Confessor.

It was not until the thirteenth century that heraldry as a science began to receive full attention. Faint traces of it are perceptible in the closing years of the twelfth century. In the Bayeux tapestry the shields of the Saxons are simply charged with lines and crosses, while some of the Normans bear extremely grotesque heraldic animals; but in the reign of Henry III., A.D. 1216 to 1272, it became possessed of a system, a classification, and a technical language of its own, that have ever since been recognised and adopted; such records, therefore, as the roll of Carlaverock already referred to, are as intelligible to a modern student of heraldry, and as definite in their meaning, as to those who caused them to be drawn up. About this time, too, the practice of embroidering the arms upon the surcoat worn over the armour was adopted; hence the expression "coat of arms" applied to armorial bearings. The arms of Edward the Confessor are sculptured on his tomb in

Westminster Abbey, but they were placed there in the reign of Edward II. There is no shadow of proof that he ever bore them. In the days in which every prominent person bore heraldic arms, and when blazonry had attained to great renown, it became a custom to bestow such heraldic arms also upon the men of rank of former times, both to distinguish them, and also, as it was thought, to treat their memories with a becoming honour and respect. Heraldry, like symbolism, has suffered ridicule and undue depreciation from the consequences of the writings of its too enthusiastic adherents, some such having gravely discussed and settled the armorial bearings of David and Gideon, Sampson and Joshua, making a true coat of arms out of Joseph's coat of many colours, and crowning the absurdity by declaring that on the marriage of Adam and Eve Adam adopted on his own red shield Eve's plain shield of silver, Abel bearing the same arms, but with the addition of an apple.

Until the time of the Crusades a knight was free to choose any device that he liked, without the express permission of the king or any reference to the heralds; but when so great a number of men of all nationalities were gathered together in the Holy Land, it became absolutely necessary, to prevent the confusion arising from so many leaders bearing very similar arms, and those in subordinate positions also bearing devices identical with those of the chiefs of the expeditions, to re-arrange the various devices in some recognised and positive order. Towards the close of the reign of Edward III. heraldry had perhaps arrived at the summit of its fame, in the respect paid to it, and in its influence on men's minds, in inciting them to deeds of heroism, as in the case of the heart borne by the family of Douglas, granted to them to commemorate the duty entrusted by Robert Bruce to Sir James Douglas—that he should bear with him to the Crusades the heart of his sovereign, and bury it in the Holy Land. The handing down from sire to son of such records of noble service would be in itself an incentive to subsequent wearers to tread in the same path of honour, that the discrepancy between the heroic ancestor and his degenerate successor might not be too patent to all beholders. To quote the words of Ben Jonson—

"Boast not the titles of your ancestors, brave youths;
They're their possession, none of yours;
When your own virtues equalled have their names,
'Twill be but fair to lean upon their fames,
For they are strong supporters; but till then
The greatest are but growing gentlemen."

Heraldry was soon found to possess other advantages besides those more intimately connected with its use in war or the tournament; thus, very soon after the Norman Conquest, in consequence of their presence being required to give validity to legal documents, seals became instruments of the greatest importance; and it would at once be obvious that heraldic insignia, from their simplicity, and also as the distinctive bearings of those who thus used them, were exactly suited to the purpose. And to the fortunate circumstances of the legal importance attached to such deeds and charters we are indebted for the careful preservation of these interesting relics, possessing historic and heraldic value of the highest order. Many of the early arms bore obvious allusion to the bearer—a kind of symbolism easily remembered. By English authorities this is termed "canting" heraldry; in France, arms parlantes, arms that speak, or in other words, that explain themselves. A few illustrations will show this more clearly. The family of Whalley bear three whales' heads on their shield; Yard, three yard-measures; De Vele and Calverly

both have a calf; Ramsey, a ram; Lambert, a lamb; Beeston, bees; Shelley, snails; Rossal, roses; Falconer, a falcon; Butler, cups. Others, from the change of language, are not at first so obvious. The house of Arundel bore swallows—in French, hirondelles; Martel, hammers, from the French word marteau. On the door of the ruined church of Bivalle-le-Martel, near Rouen, we find curious nails, the heads in the form of a hammer, thus recalling the name and armorial bearings of the family of Martel, the lords of this ancient domain. Other examples are seen in the bear borne by Fitz-urse, ours in French, or ursa in Latin, being a bear; and the otter, loutre, borne by the Luttrels. Others, again, allude to the occupations of the bearers, as the teazel-plant borne by the Clothworkers' Company, and largely employed in the manufacture of cloth; or the horseshoes borne by the Company of Farriers.

All the various figures and devices represented on a shield, no matter what their characters, are termed charges, and the shield is said to be charged with them. As in the olden time the heraldic charges were borne by their owners on their surcoats and shields, so in the present day the conventional form of shield is still employed. There is no fixed rule for the form of shield used, except that unmarried ladies and widows always bear their armorial devices on a lozenge. The vocabulary employed in heraldry is used with studious exactness, speaking a language that would be equally well understood in former times as in our modern revival, or on the Continent as well as at home, so that if we write the description of a shield—say, for instance, "Azure, a chevron dancettée or, between three mullets argent"—and send it to five hundred students of heraldry in England, France, or Germany, the drawings that we receive in return will be absolutely identical in form and colour. We cannot, however, now go into such detail as this exact use of technical terms implies, as a new language can hardly be acquired in one short chapter.

The various parts of a shield all have special names, in order that the position of any given charge may be accurately defined. The face of the shield may be divided by lines in various directions; thus we get per pale, when it is cut by a line vertically through the centre; per fess, when by a line horizontally through the centre; per cross, or quarterly, when two or more such lines cut the shield into rectangles; quarterly does not, however, mean in heraldry, as in ordinary conversation, a division into four parts; there may be many more. Other modifications are: per bend, when a diagonal line is employed; per saltire, when two diagonal lines cross in the centre; and per chevron, when two such slanting lines, springing from the lower angles of the shield, stop at their meeting-place in the centre. These dividing-lines are not necessarily straight; they may be indented, or notched like the edge of a saw; embattled; rayonnée, when flame-like or rayed; wavy, and several other forms. Shields are distinguished further by various colours, and owe to the brilliancy of such colouring much of the beauty of their effect when employed in art, the ruling motive, however, we need scarcely say, being the great value that such brilliancy and precision of colour gave to them as a means of identification in earlier times, in the dust and turmoil of the strife. The heraldic term for this brilliant enhancement is "tincture;" the term comprises metals, colours, and furs. The metals employed in blazonry are gold, heraldically known as "or," and silver, "argent." The colours are red, or "gules," from an old Norman-French word for the mouth and throat, in evident allusion to the deeply ruddy colour of those parts; blue or "azure;" black or "sable;" green, "vert;" purple, "purpure." Where metal or colour can be employed there is, of course, no further difficulty in representing any coat of arms, but as in engravings, coins, and

seals, such colouring is not admissable, some other intelligible means of giving the necessary distinctive character must be adopted. To effect this the following method is resorted to:-The portion of any shield that is to be understood as golden is dotted over with a number of little spots. Silver is left entirely white; red is shown by a series of vertical lines; blue by horizontal lines; black by lines crossing each other in both these directions; green by diagonal lines drawn from right to left; and purple by diagonal lines from left to right. In heraldry the terms left and right are, however, never met with; they are sinister and dexter, respectively. It must also be remembered that the shield in actual service was held in front of the body, so that the real right of the shield is referred to, and not the apparent right as seen by any one facing it; such being in reality to the wearer the left of the shield. The earliest example of this use of lines to express colours is seen in the seals affixed to the death-warrant of Charles I. As a familiar example, our readers will see them also shown on our coinage - on the shillings of the third and fourth Georges, for instance. The various means of representing the furs, ermine, erminois, ermines, vair, potent, countervair, counter-potent, and pean are mostly of a very conventional character. Ermine is represented by black spots on a white ground. Erminois has black spots on a golden ground. Ermines is the reverse of ermine, as in it the spots are white and the ground black. In the other furs the treatment is so arbitrary and difficult of explanation without an accompanying figure, that we prefer to refer those who can do so to some standard illustrated work for examples. Several of these forms are but rarely met with, and in the best period of heraldry not at all. With the exception of ermine, ermines, and erminois, the colours of furs are always given in blue and white, or, in the language of heraldry, blazoned argent and azure. Some few old writers, while thus employing the terms we have mentioned for the colours, as azure and vert, limit their use to the armorial bearings of gentlemen, employing the names of jewels to describe them in the devices of nobles, or planets in the case of sovereign princes. In accordance with this, red is gules; or if found on the shield of a nobleman, ruby; or on a monarch's arms, Mars. Similarly, green is vert, or emerald, or Venus; yellow, or, topaz, or Sol; but it is, as will be seen, but a needless accumulation of names for one and the same thing, and found comparatively little favour, and we only mention it lest, possibly, in referring to some old book, our readers may find such a distinction drawn, and for want of a clue be puzzled to account for it. The charges found upon shields are divided into three classes—honourable ordinaries, subordinaries, and common charges: of these the first, as would be judged from the name, are esteemed the most honourable, as without doubt they are the most ancient. Unlike the common charges, which may consist of anything-lions, reaping hooks, roses, swords, scallop-shells, &c .- the ordinaries appear to have been originally bands or bars of metal riveted on the shield to give it greater strength, being in their origin structural and essential to the proper function of the shield. The chief, bend, pale, fess, bar, chevron, pile, cross, and saltire are the honourable ordinances. It will on reflection be perceived that, apart from questions of structure, these broad, vertical, horizontal, or inclined coloured bands were much more distinctive than the ordinary charges could possibly be, and in the confusion of battle this was a vital consideration. Nowadays a man's shield may be covered with quarterings, and elaborately emblazoned with stars or eagles, or fifty other things, but in the thick of Cressy or Poictiers a simple band of black running down the centre of a yellow shield, or a broad stripe of silver on a crimson ground would practically be much more easily recognised. The knights, it will be remembered, wore nothing approaching to our modern

uniform, and their features could not be distinguished through the bars of the helmet; hence the only means of identification left was in the sound of the voice or observation of the device borne on the shield and horse-trappings. We see the importance of this principle fully comprehended, for instance, in the signal-code of our war and merchant navy. Any elaborate devices would be lost in the distance at which signalling is often carried on, and the messages attempted to be thus conveyed would often be completely misunderstood. To avoid this it will be observed that the colours employed are such as give clear and distinctive contrasts, and the forms adopted are of the most simple character—mere lines, spots, chequers, or bands.

The cross form is capable of many varieties that ought, perhaps, to be rather regarded as common charges. Edmonson, in his "Complete Body of Heraldry," names 109 varieties. Many of these no doubt originated in the Crusades, when the cross form was so universally borne, and yet with a desire to as far as possible make recognisable differences in appearance, either by colour or by some more or less elaborate modification of the typical form. The crosses pommée, fleurie, crosslet, moline (as in Fig. 157), fourchée, cercelée, patonce, botonée, clechée, patée are most ordinarily met with. During the Crusades, apart from any personal device, the English collectively, and as a badge of nationality, wore white crosses; the French, red; the Italians and Flemings, green; the Germans, black.

The subordinaries are the quarter, canton, gyron, bordure, orle, tressure, inescutcheon, lozenge, fusil, rustre, fret, and pall. The tressure may be very well seen on our florin, where, like an ornamental fringing, it surrounds the rampant lion of Scotland; while of the inescutcheon a very good example may be seen on a George shilling or half-crown, where the arms of Hanover are borne on an inescutcheon, or smaller shield, in the centre of the English arms. The gyron, a triangular form, is never in English heraldry met with alone; it is always grouped. The pall is exclusively met with in ecclesiastical heraldry.

It would be impossible to even name all the common charges, as there is no object, real or imaginary, that may not be thus borne; and examples are so numerous that we must all be familiar with at least many of the forms employed. Amongst animals the lion seems to have ever held the highest place in men's regard; and to render it distinctive many modifications of position have been adopted. We have the lion rampant when in the position seen in the Scottish arms; rampant regardant, when—the general position being the same as the last—the head is shown, as in the lion supporting the royal arms, in full view instead of in profile; statant, when standing on all four legs; passant, when the right fore-paw is raised as if in walking; salient, when both fore-paws are raised together as if in the act of springing. In other cases a portion only of the animal is representeda demi-lion, or the head, or leg, or paw, or tail; thus the family of Cork bears for arms three lion-tails. Boars, wolves, foxes, stags, bulls, and many other beasts are also commonly to be met with. Amongst birds the eagle holds the same pre-eminence that we have found the lion enjoying amongst beasts. Its presence frequently betokens a German alliance. The Germans adopted it in support of their claims to be considered the successors of the Cæsars. The eagle has also been introduced by France, Prussia, Austria, Russia, and America in their national insignia. Amongst numerous other birds, we most commonly meet with the falcon, cock, pelican, heron, swallow, and raven. Bats, fish, reptiles, and insects are occasionally used. The sun, moon, stars, trees, wheat-sheaves, arrows, crosses,

buckles, gauntlets, swords, keys, cups, spurs, various forms of knots, hearts, anchors, sceptres, are all examples of well-known charges.

Amongst mythical beings we ordinarily meet with the cockatrice, dragon, griffin, wyvern, phœnix, triton, mermaid, sea-horse, sea-lion, harpy, sphinx, sagittarius, salamander, and unicorn. The cockatrice or basilisk, the fabled progeny of the union of cock and serpent, was during the earlier ages of the world regarded as a dread reality, and as such is mentioned by Pliny, Galen, Dioscorides, and many other writers. The glance of its eye was fatal, its breath a deadly poison. It will be remembered that Shakespeare makes Lady Anne say to Richard III., with reference to her eyes, "Would that they were basilisks, to strike thee dead!" The mediæval Italians speak of a herb-basilisque that, handled gently, yielded a pleasant savour, but if trodden on engendered serpents. A certain amount of ambiguity as to the appearance of the cockatrice is met with. This is naturally excusable, since those who had seen it, and were therefore best able to describe it, died beneath its fatal glance. One old writer, Aldrovandus, represents it as a huge lizard having a cock's head and four pairs of legs; others call it the king of serpents (Greek, basiliskos, diminutive form of basileus, "a king"), and represent it in true serpentine form, but having a diadem or crest on its head. In modern heraldry the cockatrice has the head and legs of a cock, duly wattled and spurred, a scaly, serpent-like body, and dragon wings. The phœnix is eagle-like in form, but always represented as issuing from the midst of fire. The phoenix, mentioned by Pliny, Herodotus, Hesiod, and others, was believed to live five hundred years, and then, collecting its own funeral pyre, to perish in the flames created and fanned by the beating of its wings, and thence to rise again from its ashes to renewed life; hence it became in mediæval times an emblem of immortality, or of the purifying effects of sorrow and pain, and is frequently referred to in this sense in old monastic legends. The phænix is at times referred to by our poets, as in Moore's "Lalla Rookh:"-

"Sleep on, in visions of odour rest,
In balmier airs than ever yet stirred
Th' enchanted pile of that lonely bird,
Who sings at the last his own death-lay,
And in music and perfume dies away!"

The dragon is a winged monster like the cockatrice, but having four legs and a different character of head. The griffin is an animal produced by the combination of the eagle and lion, as in Fig. 391, the head, wings, and feet being like those of the eagle; and the general effect of the body leonine. The wyvern is a winged serpent; it is in general appearance very like the cockatrice, but the head is that of a dragon. The triton is a monster of which the upper half is the similitude of a man, while from the waist downwards the form is that of a fish; in the mermaid, the sea-horse, and sea-lion the underlying idea is very similar to that seen in the triton, except that in these latter cases the upper parts are those of a woman, a horse, and a lion, respectively. The harpy was a form having the body and wings of a vulture, and the head of a woman. They were, according to classic mythology, employed by the higher gods in the punishment of the sins of mortals. The other forms to which we have referred are sufficiently well known to need no further comment.

It is a fundamental law in heraldry that colour shall not be placed upon colour, nor metal upon metal; thus, blue and red, or white and yellow employed together would be

false heraldry. The only exception to this is where any object is represented in its natural colour, in heraldry termed "proper," and marked "P.P.R." in descriptions of blazonry. A tree might therefore be blazoned vert on an azure ground. In marshalling several arms together into one shield, each is treated as being complete in itself; thus, in our national arms, the blue shield of Ireland stands side by side with the red shield of England without being deemed a violation of the law; or we might suppose a case where two shields are combined together into one armorial bearing, each in itself correct in colouring, the one having a black eagle on a golden ground, the other a silver key on a red field. Their combination into one shield is, so to speak, an accidental circumstance arising from an alliance; each is correct in itself, and the accident of the black eagle of the one coming in juxtaposition with the crimson ground of the other does not in any way prove an infringement of the rule. The method of showing two bearings upon one shield by the representation of half of each of them is termed dimidiation. It is not altogether satisfactory, as it mutilates both shields, and often cuts up the charges very awkwardly. Impalement, where both are represented in their entirety, is far preferable. Impalement is largely used in all official arms; bishops, for instance, impale the arms of the bishopric with their own family arms. Quartering isanother method of combining several bearings together into one armorial device; we see it, for instance, in the arms of Great Britain, as borne by our sovereign, where the English, Scottish, and Irish arms are thus treated. There may occasionally be mere agroupment, where each shield is complete in itself, and merely combined in some ornamental way with the others by ribbons, panelling, &c. The English, Scottish, and Irish arms thus grouped may be seen on our florin. A distinction was sometimes made between the shield of war and the shield of peace, the first being the heraldic arms of the bearer, the second an arbitrary device. An especially good example of this may be seen on the monument of Edward the Black Prince, in Canterbury Cathedral, where the two shields are sculptured in alternate panels. Old tombs in our cathedrals and churches often supply excellent and most reliable examples of heraldic devices, and the nature of the armour and costume worn at the time of their erection.

"The boast of heraldry, the pomp of power,
And all that beauty, all that wealth ere gave,
Await alike the inevitable hour;
The paths of glory lead but to the grave."

Crests were originally adopted and worn upon the helmet as further distinctive signs. Badges were employed on the horse-trappings, or the breasts or sleeves of the common soldiers and retainers of the nobility; the badge of the Percys, for instance, was the crescent moon; of the house of Lancaster, a red rose, or columbine-flower; Plantagenet, the broom-flower; the Black Prince, three ostrich-feathers, a device borne ever since by the Princes of Wales; Richard II., a white hart, or the rays of the sun issuing from behind a cloud.

The motto was originally the battle or rallying-cry of the knight who bore it; thus the motto of the Percys was, Esperance en Dieu. Those of our readers who are of Shakespearian tastes will remember the exclamation of Hotspur—"Now, Esperance! Percy, and set on." A motto, unlike the arms, can be changed at pleasure, or need not be possessed at all. It may be in any language. It is often chosen from a punning allusion to the bearer; the family of Vernon, for instance, have Vernon semper viret, which

may be read either as "It is not always spring," or "Vernon ever flourishes." Sometimes the mere ring of the words has apparently greatly influenced the choice, as in Astra castra, numen lumen, "The stars my canopy, Providence my light;" or the old Norman-French, Un roy, une foy, une loy, "One king, one faith, one law;" or again, Pro rege, lege, grege, "For the king, the law, the people." Mottoes are not the exclusive property of any one family or corporation, but may be borne by several. The last motto we have just given is that selected by three families, the Bessboroughs, Broughams, and Ponsonbys all adopting it. A great proportion of the mottoes in use are chosen from conveying a religious feeling; thus, "Without God there is nothing; with God, enough;" Christi crux est mea lux; Spes tutissima calis, recalling to mind Cowper's line—

"All hope, despair, that stands not on the cross."

Another large class may be considered not so strictly religious, as appealing to morality in a somewhat lower sense. These, too, are very numerous: "Do well, and doubt not;" "Dread shame;" or again, "Be just, and fear not," sufficiently illustrate this section. Some, again, are chosen to commemorate events in which the bearer of the motto, or his ancestors, took prominent and honourable part, as "Algiers," "Vimiera," "China," or the "Ready, aye, Ready," more obscure in meaning, but well illustrated in one of Scott's stirring stanzas:

"His ready lances Thirlestane brave
Arrayed beneath a banner bright,
The tressured fleur-de-lis he claims
To wreath his shield, since royal James,
Encamped by Fala's mossy wave,
The proud distinction grateful gave,
For faith midst feudal jars;
What time, save Thirlestane alone,
Of Scotland's stubborn barons none
Would march to southern wars;
And hence, in fair remembrance worn,
You sheaf of spears his crest has borne;
Hence his high motto shines revealed—
'Ready, Aye, Ready' for the field."

Other mottoes startle us by their tone of arrogance. Of these we may quote, Homo sum, "Beware;" "Follow me," "Never behind," Alte volo. The supporter of the arms is sometimes an angel, man, or animal, or at other times an imaginary creature, placed as if protecting and sustaining the arms; their use, except under special circumstances by direct license of the monarch, is confined to peers and knights of the Bath. There are almost invariably two, in early heraldry alike, in later times very rarely so. Our national lion and unicorn afford us a good and familiar example. Elizabeth, Mary, and Henry VIII. had a lion and a greyhound as supporters to their arms. Richard III. used either a golden lion and silver boar or two silver boars; Edward III. a lion and eagle; Edward IV. a lion and bull; Edward VI. a gold lion and red dragon; Richard II. two white stags; Henry VII. a red dragon and white greyhound. The lion and unicorn were first employed at the union of England and Scotland under James I., and have continued in use ever since. The lion has been almost invariably employed as one of the supporters as a badge of England. The Scottish arms have always been supported by two unicorns; hence, at the union of the two kingdoms, the lion and the unicorn were naturally chosen as the

supporters of the armorial bearings of the realm. George III. was the last king who carried the French lilies on his shield. His arms were, first quarter, England and Scotland impaled; second, France; third, Ireland; and fourth, Hanover. The lilies of France were first assumed by Edward III., in the year 1340, and continued in use until 1801, though, except in one reign during that long period, it was a mere pretence and shadow of sovereignty. The French lily, or fleur-de-lis, is supposed by some to have derived its name from the river Lys, on the borders of Flanders, on the banks of which it is said to be particularly abundant; and no doubt many of our readers are familiar with it under the name of yellow iris or yellow flag, and have admired the brilliant and graceful yellow flowers as they rise up by the sides of our streams in the midst of their long, sword-like leaves. It was at one time considered as particularly sacred to the Virgin Mary. Others deny that it is an iris-flower at all, thinking it a conventional form, derived perhaps from a triple leaf or the head of a halberd or spear, but of which nothing conclusive as to origin can now be known.

We occasionally find, in addition to the inescutcheon, various little accessories to the shield known as marks of cadency, augmentations, or abatements. The first of these-the marks of cadency-though now to some extent fallen out of use, have been till lately strictly observed as a means of showing the seniority of the different members of a family. All the sons of a family having a right to bear the paternal arms, it became necessary to devise some small distinction that should at once give the necessary difference, and also show the status of each member of the house. To accomplish this, the eldest son bears a form known as a label (it may be very well seen in the arms of the Prince of Wales), the second son a crescent, the third a five-pointed star, the fourth a martlet (a bird very like a swallow), the fifth an annulet or ring, the sixth a fleur-de-lis, the seventh a rose, and so on. These signs are placed in the centre of the upper part of the shield. Marks of augmentation are certain honourable additions granted by the sovereign for some special and extraordinary act of national service, and generally in some way allude to the service rendered; thus Charles II. granted to Penderell, who saved his life at Boscobel, an oak-tree, in allusion to the circumstances of his escape. Sir Cloudesley Shovel bore as augmentation of honour two crescents and a fleur-de-lis upon his own proper arms, for distinguished naval victories gained over the Turks and French. As an additional mark of honour these marks of augmentation can be transmitted to one's posterity; thus Robert Bruce, once closely pursued by English soldiers, only escaped through two men named Torrance rowing him across an arm of the sea. The family still bear as arms two oars crossed, with the motto "I saved the king." The family of Hicks-Beach bear three golden fleurs-de-lis; they refer to three French standards captured by Sir Elias Hicks, who for his bravery was also created a knight by the Black Prince; and as a concluding example, an owl, the crest of the Fowlers of Staffordshire, originated in the vigilance of Richard Fowler, a Crusader of the time of Richard I., who saved the Christian camp from a nocturnal surprise, and for this service was made a knight, and ordered by the king to assume as his crest the owl. Marks of abatement are now never used; but in the olden time, when heraldry entered into the architecture, the daily costume, the seals of documents, and in a hundred other ways made itself felt, it must have been a crushing disgrace to be obliged, willing or unwilling, to bear everywhere, and openly, before every one, marks of infamy, to be forced to mix with other knights, and yet be shunned by them as one detected in treachery and cowardice—a disgrace and reproach to his order. Formerly there were nine different acts of dishonour, each

bearing its distinctive mark to be affixed to the shield during the king's pleasure—a terrible disgrace, obvious to all and understood by all-such as withdrawing from a challenge made, deserting the banner of the king, vain-glorious boasting, killing a prisoner when not really needful for defence, uttering a lie to his sovereign, drunkenness and licentiousness of conduct, or acting as a traitor towards his king and companions; for this, the most disgraceful offence, he was compelled for the rest of his days to bear his arms reversed. The monarch had thus, in marks of augmentation on the one hand, and marks of abatement on the other, a very complete and universally recognised system, ready made to his hand, for rewarding the loyal, patriotic, and devoted, and of bringing very speedy and complete punishment upon those who proved false to the vows of chivalry they had solemnly taken. We might now proceed to give some little insight into the various forms of coronets and helmets, since their correct representation is an essential point, but we feel that we must, in a mere sketch of the subject, perforce leave much unsaid. In representing the arms of a lady a crest is never introduced. If its original intention be remembered—to distinguish the wearer in the turmoil of the fight-the inconsistency of adding it to the armorial bearings of a lady will, according to the authorities, at once be evident; though it seems to us that if this line of reasoning be carried but one step further the lady should also bear no shield of arms, for the shield in its primary use was as much an accessory in the strife of war as the crest, and any arguments that apply to the one seem to be equally binding on the other. On the same principle of consideration of the original use—as a mark to distinguish one leader from another-it is inconsistent to represent two or more crests over any armorial bearings, though in the case of matrimonial alliances between two families of rank it is often done, the arms of the wife being impaled or quartered with those of the husband, and the crest of the lady's father being added to the joint arms. Behind a shield, and issuing from the crest, we often see folds of drapery represented; this is known heraldically as the mantling. The royal mantling is of gold; that of peers, of crimson. Both are lined with ermine.

Whether heraldry deserves the consideration that it yet receives, now that its primary use has for ever passed away, may be an open question, but we trust that we have at least succeeded in showing that it is guided by positive rules of its own which cannot with impunity be violated. If, therefore, employed at all in church restoration or glass painting, illumination, &c., it can only be properly introduced after some little attention has been paid to rules which, though in themselves arbitrary in character, have received the sanction of centuries, and the ignorance of which cannot fail to be speedily detected. Illustrations of the need of this special knowledge may from time to time be met with, and it is not a sufficient reason for the violation of the special rules of the subject to deride it as obsolete, arbitrary, or absurd. It may be all this, and yet, if the thing be introduced at all, it should be rightly done, according to those rules. If the verdict on heraldry be an unfavourable one, it should at least spring from knowledge, not from want of knowledge. We are not, however, here called upon to decide upon the claims of heraldry itself on our attention, as to whether it is a "noble science," as one old book calls it, or, as another says of it, "the science of fools with long memories;" we have merely to deal with it as a fact that we find prominently brought before us when we deal with much of the archæological work of the past, and we must as such accept it, and endeavour to comprehend the laws by which it is governed. In drawing our remarks to a close we cannot do better than quote some few lines of excellent common sense that we met with once while studying

the subject. They were inscribed upon the pedigree of an illustrious house by one of its members during the Middle Ages:—

"What profit pedigree or long descents From far-fetched blood or painted monuments Of our great grandsire's visage? 'Tis most sad To trust unto the worth another had For keeping up our fame which else would fall, If besides birth there be no worth at all. For who counts him a gentleman whose grace Is all in name, but otherwise is base? Or who will honour him that's honour's shame, Noble in nothing but a noble name? 'Tis better to be meanly born and good, Than one unworthy of his noble blood; Though all thy walls shine with thy pedigree, Yet virtue only makes nobility. Then that thy pedigree may useful be, Search out the virtues of your family; And to be worthy of your fathers' name, Learn out the good they did, and do the same. For if you bear their arms, and not their fame, Those ensigns of their worth will be your shame."

We have known, in our own and in all times, men of lowly birth do deeds of the brightest and most self-denying heroism—deeds that will live and glow in history, and inspire others to a like devotion, so long, may be, as the world shall last; and we have seen men of high birth, bearing illustrious names, having every advantage that wealth, station, leisure, and culture could give, squander them all in terrible eagerness on the usurer, the jockey, the crowds of so-called friends who fatten on their folly. We have had a sufficient number of examples in each of these classes to prove that the terms "nobleman," "gentleman," belong to no exclusive section, but may be equally borne by the artisan, the merchant, or the wearer of the coronet, and that it is to the man we must look more than to his title or station in society: for

"The rank is but the guinea stamp;
The man's the gowd for a' that.
A king can mak a belted knight,
A marquis, duke, and a' that;
But an honest man's aboon his might,
Guid faith, he maunna fa' that!
For a' that, and a' that,
Their dignities, and a' that,
The pith o' sense and pride o' worth,
Are higher ranks than a' that."

## CHAPTER VI.

Certain Forms characteristic of certain Styles—The Horizontal Line in Ornament—Classic Examples of rt—Ornament based on Construction—The Horizontal Line in Weaving and Pottery—Sketch of the Potter's Art—Symmetry, its Meaning and Scope—Bi-Symmetry—Multi-Symmetry—Symmetry in Natural Objects—The Kaleidescope—The "Last Supper" of Da Vinci—Repetition as an Ornamental Principle—Alternation—Radiation—Interchange—Counterchange—Variation—The Influence of Machinery on Art Productions—Styles of Ornament: What are they?—The Blending and Transition of Art Styles—English Art descended from Egyptian—Military Conquest as affecting the Arts—The Proto-Doric Monolithic Monuments—The Modification of Classic Types in Byzantine Art—How far Art Rules may be considered Binding—Sir Joshua Reynolds on Laws in Art—Conflicting Opinions of Authorities—The Use of Architectural Forms as an Element of Ornament—Representations of Armour, Musical Instruments, &c., as Features of Decorative Art Imitations of Drapery—Colour in Ornamental Art—The Primary, Secondary, and Tertiary Colours—Transparent and Opaque Colouring—Effect of a Compound Colour producible by the Juxtaposition of its Elements—Advancing and Retiring Colours—Harmony of Colour by Analogy—Harmony of Tone—Difference between Tones and Lines, Tints and Shades—The Naturalistic Colour Argument The Influence of Colours on each other—The Influence of Sunlight and Artificial Light on the Appearance of Colour—Colour-blindness, or Daltonism.

In glancing over any work devoted to ornamental art—such, for instance, as the "Grammar of Ornament" of Owen Jones—we are struck, first by the immense variety of forms, and the strong individuality that a few leading forms—as the acanthus or scroll—are able to afford to a given style; so that any one familiar with the subject would at once recognise the period and parentage of a fragment, no matter how isolated from its proper belongings, and could never, under any circumstances, mistake Greek for Norman, or Chinese for Byzantine; and, secondly, our first wonder at the apparently boundless variety combined with marked and distinct individuality being over, we are no less interested to see how few and simple the elements are on which these multitudinous forms are based; how marked and distinct the leading principles that, amidst details so diverse, give a sense of unity in the midst of variety, "similitude in dissimilitude," or, to quote the scarcely less well-known lines of Pope—

"Where order in variety we see,
And where, though all things differ, all agree."

As an illustration of our remarks, and a means of making our meaning somewhat clearer, we will for a few moments consider the influence that so simple an element as the horizontal line can yet in a marked degree exercise; thus, in the Egyptian temples, the sky line, and many other leading lines, were horizontal, and gave at once marked character to their buildings; and the broad horizontal bands of inscriptions that run across the Assyrian slabs are, while a distinctive feature of the style, but another modification of the same decorative element. The horizontal line is a marked feature in classic art. The old Roman walls found here and there throughout England are rendered at once structurally stronger, and at the same time more pleasing to the eye, by the horizontal lines of thin brick that occur at intervals in the rubble masonry of which they are ordinarily composed. In many countries large surfaces of wall-space owe the ornamental effect that they undoubtedly possess to the series of bands of coloured bricks or marbles that are thrown across them at judicious

intervals. Good examples may be seen in the architecture of Italy, Arabia, India, and Cairo. In some districts of England a similar effect is produced by alternate layers of flint and sandstone. Construction, as we have already hinted, finds the horizontal line well adapted to its exigences; and hence we find it fulfilling, in string-courses, &c., its proper work, and taking its rightful place, an essential feature of construction made beautiful by art treatment. This principle, the decoration of construction, in opposition to the common but false lack of principle, the construction of decoration, is so essential a feature in all pure design that it will be found that where ornamental art is of a debased type it has also little or no regard to constructive features, while the best period in any style of art is that where constructive utility has been first appreciated. In the writings of John Bell we find a passage that so exactly illustrates the relation of art to use that we gladly quote in preference to venturing on any definition of our own. "Ornament," he says, "is, so to speak, the immediate parasite of architecture. It is the lichen that rises from it a natural growth; the ivy or honeysuckle that clings to its pillared trunk; the mistletoe which buds out amid its branches. Decoration is not a substantive, but an adjective. It does not stand alone; it is not a thing of itself; it decorates something else: it is an adjective. On the other hand, a painting, a piece of sculpture, or an architectural structure, is a nounsubstantive—a thing of itself. Not so decoration. Decoration clings: it needs support. It follows: it does not lead the way. It enhances: it does not originate. This is its restricted province."

The horizontal line, in the same way, is admirably adapted to fabrics produced by weaving; hence we find in all periods of art a great use made of parallel bands in textile fabrics as a decorative feature, the effect being sometimes produced by the alternation of a dead and glossy surface, or more generally by variation of colour. It is also very largely met with in ceramic art; the process of manufacture in this case, too, being very favourable to its introduction. Any of our readers who have had the opportunity of visiting the seat of such manufacture will doubtless remember with what ease the potter, by the instantaneous touch of a pointed instrument, or brush of colour, formed a perfect ring on the vessel as it was revolving, in a plastic state, with great rapidity on the horizontal wheel or disc, before him. The like manipulation has produced like results in the ceramic art in all ages. Archaic in style as much of the early pottery is we cannot help feeling that even in this simple treatment of concentric rings and bands there is also considerable beauty; and indeed, in these examples the very rudeness of the work has its own special charm, as it testifies alike to the antiquity of the potter's art and to that inherent love of the beautiful which, not content with the utility alone of an object, seeks to make it pleasing also to the eye. Of the extreme antiquity of the potter's art there can be no question; it is so evidently coeval with the first dawn of civilisation that we look in vain for any account of its origin, as long before men had written records the potter's productions were in constant demand. Most early nations ascribe their knowledge of the art to the beneficent regard and direct instructions of their gods. The Hebrew Scriptures contain numerous allusions to the creations of the potter, and the processes employed by him. Thus, in the denunciations uttered by the prophet Jeremiah, we find the following passage:—" The Lord said to Jeremiah, Arise and go down to the potter's house. Then I went down, and behold he wrought a work on the wheels; and the vessel that he made of clay was marred in the hand of the potter, so he made it again another vessel, as it seemed good to the potter to make it. And the Lord said, O house of Israel, cannot I do with you as this potter? Behold, as

the clay is in the potter's hand, so are ye in mine hand, O house of Israel." Allusions to the ceramic art are also frequent in the works of the Greek and Latin writers; thus, in Plautus, we meet with the line, "Vorsutior es quam rota figularis," "Thou turnest more swiftly than the wheel of the potter." Homer, Horace, and Juvenal also furnish other good references, though it is needless here to quote them. A further proof of the extreme antiquity of the art is seen in the very interesting catacombs of Beni-Hassan and Thebes. These, from internal evidence, the reading of the hieroglyphics, &c., are known to date from about nineteen centuries before the Christian era; thirty-eight centuries at least, therefore, have passed away since their construction. Many very curious and historically valuable paintings are met with on the walls, illustrative of the daily life, pursuits, wars. ceremonies, and amusements of the ancient Egyptians; and amongst them a series depicting the various processes of the manufacture of pottery, wherein we see the preliminary kneading of the clay, the formation of the articles on the wheel, and the removal of the ware to the oven for firing. It is curious to notice that though representing the manipulation of so distant a period the positions of the hands, and peculiar rounding of the right arm in fabricating the ware from the mass of clay, are absolutely identical with the position assumed by the workman of the present time. The Staffordshire "hand" of the reign of Victoria, in this year of grace, 1875, is unable to improve upon the attitude which by experience had already, so many hundreds of years ago, been proved to be the most favourable for working by this humble subject of the Pharaohs. The almost universal custom in early ages of consecrating certain articles of pottery, by employing them when cremation was practised, as the honoured receptacles of the ashes of the departed, or, as we more ordinarily find, by burying them with the dead, has happily been the means of preserving in safety things in themselves so fragile, and has thus afforded us a valuable means of study that we could in no other way have acquired.

Having thus, in our remarks on the horizontal line, illustrated to some extent our meaning when we spoke of the constant recurrence of certain elementary forms throughout the whole range of decorative art, we propose now to dwell on certain simple principles that are no less commonly met with, and in the same way become a bond of union amidst much that is divergent and antagonistic.

Of these principles one of the most noteworthy in almost every period of art is symmetry, and it is, therefore, in this direction that we first turn our attention.

The term symmetry is used in a twofold sense; one admitting of a very wide scope, while the other is of narrower application. The wider scope of the word includes, in the idea of a symmetrical arrangement, the due harmony and balance of parts; and the original meaning of the term is not opposed to this, the word being built up from the Greek words syn, "together," and metron, "a measure." Symmetry, therefore, is a term that may very rightly be applied to a just balance of the masses of a design, sculptural, architectural, or decorative. The word symmetry is used in a second and more restricted sense to express the likeness of one half, or other part, with another in a design. Thus, we speak of the unit of a given composition being bi-symmetrical or tri-symmetrical, or, if it goes beyond this—as in numerous cases where the ornament is radiate in character—it is termed multi-symmetrical. In a curious old Hindoo work on architecture we find the following good illustration of the higher use of the word:—"Woe to them who dwell in a house not built according to the proportions of symmetry. In building an edifice, therefore, let all its parts, from the basement to the roof, be duly considered."

Numerous examples of designs—bi-symmetrical, tri-symmetrical, and multi-symmetrical—will be found amongst our illustrations. Fig. 36, a Moresque example; Fig. 52, a Chinese fret; Fig. 150, from an Egyptian source; Fig. 195, also Egyptian; Fig. 200, a piece of Renaissance carving; Fig. 231, a cipher; Fig. 242, an anthemion form from the Assyrian remains; Figs. 273, 274, 275, 276, 280, on Plate XVII., all Elizabethan examples; Fig. 279, design for a hinge, by Holbein; Fig. 281, a form Byzantine in its origin; Fig. 283, a piece of Greek ornament; Figs. 292, 297, diapered on the drapery of a picture of the Madonna and Child enthroned, by Crivelli, National Gallery; Figs. 323, 329, 331, all Indian in their origin; Fig. 332, a piece of Norman stone-carving; Fig. 338, a piece of perpendicular wood-work; Fig. 346, Romanesque; Fig. 355, English embroidery, temp. Queen Elizabeth; Fig. 359, Early French Gothic, a treatment of blackberry, Nôtre Dame, Paris; Fig. 372, a design based on the field convolvulus; Fig. 387, a Decorated Gothic example, from Hereford Cathedral; Fig. 405, modern Italian carving; and Fig. 406, Tunisian embroidery, are characteristic examples, from widely diverse sources, of designs bi-symmetrical in construction.

Of tri-symmetrical forms the following will be found as examples:—Figs. 173, 184, 186; Fig. 144, a treatment of clover; Fig. 135, Egyptian; and Fig. 214, a cipher. Tri-symmetrical forms are much less frequently met with than either of the other two classes we have mentioned.

Multi-symmetrical treatments will be found in Fig. 74, a piece of Decorated Gothic stained glass; Fig. 155, a cruciform arrangement from a coin of Stephen; Figs. 234, 239, 243, Assyrian examples; Fig. 261, a piece of Indian embroidery; the whole of the examples on Plate XVI.; Fig. 339, a series of Norman disc forms; and Fig. 423, a piece of Byzantine interlacing.

Ornaments intended for a vertical position, as in the case of designs for curtains and wall-papers, may most appropriately and advantageously be bi-symmetrical in arrangement, as they are always seen in the direction best adapted to the display of their beauties; while multi-symmetrical and stellate forms are more suitable for floor-cloth and carpet patterns, as forms of this character look equally well from all points of view; while a design having only its halves alike is seen to advantage but in one direction. The converse of this proposition does not so clearly hold good; for while bi-symmetrical forms are unsuited to floor-decoration, the radiate forms that are there so pleasing are not inappropriate when placed on a wall-surface.

It is interesting to observe that amongst natural objects the lowlier forms are more ordinarily multi-symmetrical—for example, snow-crystals, sea-anemones; while the higher forms of life are bi-symmetrical, as we see in insects, birds, quadrupeds, and man. There are, however, numerous exceptions to this, and the theory must not be pushed too far; thus, for instance, we have flowers multi-symmetrical in form, while the leaves are bi-symmetrical, alike only in their halves; though undoubtedly the flower, in view of its physiological functions, and also from the standpoint of the ornamentist, cannot but be regarded as higher in office than the leaf. Natural examples of bi-symmetry will be found in Fig. 277, a fossil shell; most bivalve shells are truly bi-symmetrical; in Fig. 284, the wood tiger moth; in Fig. 285, the lime hawk moth; in Fig. 343, the foliage of the vine; in the blossoms, Figs. 349, 357, of the honeysuckle and violet; and in Fig. 415, a continental species of swallow-tail butterfly. The multi-symmetrical arrangement common to most flowers is seen in Fig. 256, the blossom of the Herb-Robert geranium. We have

in our work, "Plants, their Natural Growth and Ornamental Treatment," illustrated these natural examples much more fully than here seems desirable, nor do we care to travel over the same ground twice; to that work, therefore, we would refer our readers, should they care to have a greater number of examples presented to them.

Symmetry is a principle of great value in decorative art; for however poor a form may be in itself, if it but form part of a symmetrical arrangement it at once becomes more pleasing. We may see this well illustrated in the kaleidoscope, where very rich and beautiful forms are produced by the reflection and symmetrical arrangement of rough, irregular pieces of glass that in themselves are worthless, destitute of all inherent beauty. Even the schoolboy experiment of making a great ragged blot, and then folding the paper through its centre, is another illustration of the value of symmetry; for the bi-lateral form thus produced, though meaningless, is certainly far more pleasing to the eye than the original smear from which it was developed.

Burnet, in his essay on the "Education of the Eye," is not insensible of the value of a symmetrical arrangement even in the freer domain of pictorial art, and to illustrate his remarks, employs a very similar means to that just referred to, as he says, "If we take a pen and sketch in a row of buildings, trees, &c., running from one side to a point in the centre, blotting in shadows broad and dark on the near objects, and while the ink is wet fold the paper across, so as to take off an impression on the opposite side, the eye is not only gratified by a greater mixture of sharp and soft portions, but by a greater unity and balance of parts, one side with another, and a repetition of the sky line with the lines of the ground; or if we draw in a group of trees, and fold the paper across at the base of their stems, so as to take off a faint impression, as if reflected in water, the same agreeable sensation will be produced." Symmetry, however, of the grand divisions of a design, whether architectural or ornamental, is the nobler form in which we meet with the principle; wherein a general harmony and balance appeal to the eye, while a constantly recurring variation in the details is no less grateful to the mind and taste when a closer scrutiny of the work is made. This naturally entails more thought, careful labour, and play of fancy in the designer than any mere repetition of parts, however pleasing in themselves. The higher the order of the work the less must the mechanical symmetry become obtrusive: for instance, in the mouldings of a church-window the cusps on one side will just agree in position and be identical in form with those on the other; but in the stained glass occupying the window itself the apostles and martyrs must, while maintaining a unity of grouping, show also a variety of position and action. A design composed of foliate and floral forms may be in exact symmetry, and the resulting effect will be good; but two human or angelic forms thus treated will be repulsive; the mechanical repetition will have degraded them. Hence, in the noblest Greek work-such, for instance, as the Parthenon, the shrine and dwelling-place of Pallas Athene, "the finest edifice on the finest site in the world," according to Dr. Wordsworth, the grand result of the united labours of Ictinus, Callicrates, and Phidias—the groups of figures in the pediments were symmetric as a whole, and were thus in just harmony with architectural requirements, and yet treated with the greatest freedom, balancing, but certainly not repeating, each other. The same remarks apply with equal force to the figures of the metopes and frieze. Examples of these may be seen in the British Museum. A copy of the Panathenaic frieze may also be seen on the building devoted to the Athenæum Club, in Pall Mall. Any of our readers who care to consult Zahn's fine work on Pompeii will not fail to be struck with the general balance and harmony

of the various groups or isolated figures so freely employed in the mural decoration; while the immense variety of attitude is a feature equally striking; there is a due balance, but no repetition, no sameness; for "beautiful forms must necessarily be composed both of uniformity and variety,"\* and this "variety is one of the chief sources of beauty."†

Having given examples sculptural and decorative, we may be allowed to cite one other notable instance of the principle for which we are contending; this time a pictorial example. There is, perhaps, no picture more markedly symmetrical in treatment than the "Last Supper" of Leonardo da Vinci. A long table, parallel to the plane of the picture, stretches almost from end to end of the composition. The three-light window on the back wall of the room is so exactly in the middle that the lateral jambs on each side are of identical width; while the lines of the ceiling-rafters, wall-panels, floor-lines, even the folds on the horizontal surface of the table-cloth, in accordance with the requirements of perspective, all converge to a point in the centre of the window. In the centre of the composition sits our Saviour, the central light of the window being immediately behind Him, and all the lines, therefore, of the walls, ceiling, and floor converge to a point immediately over His head, and carry the eye most unmistakably to Him. On either side of this noble and isolated figure we find six apostles, each six in two groups, so that we get four groups, each containing three figures, and two of these groups on each side of the central figure of our Lord; nevertheless, so varied are the positions, some of the figures being seated, others springing to their feet-some advancing with eagerness to repel the idea of treachery, while others shrink, in one case in conscious guilt, in others at the bare idea of betraying their Lord-that the mind rests with wonder and delight on the skill that has produced so grand a result out of materials apparently so difficult thus to treat, while the eye is equally satisfied with the grand simplicity and balance of the composition. Should any of our readers feel inclined to think somewhat lightly of this, we would strongly advise them, a horizontal line being given as the edge of a table, to attempt the grouping of thirteen figures behind it, and we are persuaded that they will rise from the problem with a greatly increased respect for the genius of Leonardo da Vinci.

If we turn to the writings of those who are entitled, by their experience, to speak with more or less authority, we find a marked unanimity in their opinions, and our own dicta very fully confirmed; thus Ruskin, for instance, speaking of symmetry, in the second volume of "Modern Painters," says, "I only assert respecting it, that it is necessary to the dignity of every form, and that by the removal of it we shall render the other elements of beauty comparatively ineffectual; though, on the other hand, it is to be observed that it is rather a mode of arrangement of qualities than a quality itself; hence symmetry has little power over the mind unless all the other constituents of beauty be found together with it. A form may be symmetrical and ugly, as many Elizabethan ornaments, yet not so ugly as it would have been if unsymmetrical, but betters always by increasing degrees of symmetry." Wornum, in his "Analysis of Ornament," says, "It seems to be a law o nature that every individual thing shall be composed of similar parts in its outward appearance; and as the internal arrangement is often different, as in the animal creation, this similarity of externals would appear an evidence of the design of beauty;" while Hudson says, "Symmetry of form in leading lines is almost essential."

It is curious to observe that in nature not only are similar parts combined to compose one symmetrical whole, as in the case of the buttercup-flower, which is made up of five petals, units each in themselves symmetrical; but that this symmetry may also be produced, as in the case of the flowers of the periwinkle and the various species of St. John's wort, by the aggregation into one whole of petaloid forms in themselves unsymmetrical. Another curious modification is seen in the flowers of the candytuft, and several of the umbelliferæ as, for instance, the fool's parsley, where the individual flowers are bi-symmetrical, but so arranged that, all the narrower parts of the flowers being inwards, lines drawn through their diameters would meet in the centre of the mass of blossom, and thus the mass is itself symmetrical. Flowers that in their growth present a plane perpendicular to the earth are ordinarily bi-symmetrical; the pansy is a good illustration of this; while flowers that are in a plane parallel to the earth, and that, unlike the preceding, are seen not in elevation but in plan, are multi-symmetrical. The greater number of plants are members of this class: the daisy, dandelion, strawberry, mallow, coltsfoot, anemone, and water-lily are familiar examples. Flowers, like those just named, that are multi-symmetrical in plan. are, when seen laterally, bi-symmetrical.

Turning our attention now to the art work of the past, we are at once struck by the almost universal adhesion of the ornamentists of all periods, and of nationalities the most diverse, to this principle. Except where the human figure was an element in the design, the Greeks and Romans, Egyptians and Assyrians, all largely employed symmetrical arrangements. In the arrangement of the Egyptian temple it was customary, while preserving a general balance of effect, to make considerable variation in the details, though the result was in most cases but an extended development of the symmetric unit; thus in a temple having twelve pillars on its front, the two central ones would have capitals of similar design, the two next to these again were similar to each other, but different to the first-named, while the ones on either side of these again had a third design, alike in each of them, but not like any of the others; so that the sixth and seventh pillars and capitals would be alike, the fifth and eighth, the fourth and ninth, the third and tenth, the second and eleventh, and the first and twelfth. All the ornamental types of Egyptian decorative art are treated in a bold diagrammatic manner. We see this very well in Fig. 169, a representation of the lotus-flower. Moorish, Arabic, Persian, and Indian ornament is, as a rule, symmetrical. Chinese and Japanese designs are frequently unsymmetrical, the former more especially delighting in violating this principle. It is curious to notice the trouble that often appears to have been taken to avoid anything like a lateral balancing of parts, or even to preserve that due harmony and proportion of masses that, to our Western eyes, seem so desirable a feature to retain. Of their aversion to rigid symmetry in details we have two amusing examples in Figs. 51, 60. The Chinese delight greatly in these circular and abnormal fret-forms, and display a certain ingenuity in producing numberless varieties. In Fig. 51 it will be seen that only a slight difference in the opposite lines at the bottom saves it from having its two sides similar. In Celtic work the interlacings and entwining bird and reptile forms have a due balance when seen in the mass, but are by no means rigidly symmetrical when viewed in detail.

As springing naturally from the foregoing remarks, we now turn our attention to two other principles, repetition and variation. Repetition is a feature of constant application; it commends itself to manufacturers on the ground of economy, an economy felt both in the price paid in the first place for designs, and afterwards on account of the greater facility of

reproduction. We see the principle very largely introduced in designs for paper-hangings, muslins, and all kinds of work that are produced by the agency of machinery in any form, stencilling, block-printing, and such-like. Alternation of form springs out of this, and is but a richer development of the same principle; we see it, for instance, in the Greek egg and tongue moulding, where two very dissimilar forms are brought into juxtaposition, each by contrast mutually assisting the effect of the other. An illustration of the principle may be seen in the small bordering shown in Fig. 307. If the student will draw the larger forms alone, he will at once see how decided a gain the insignificant spot alternating between them really is, and how out of all proportion to its apparent importance is the real loss in omitting it. In Fig. 301, from a Greek vase, the variety of effect is produced by alternation of the direction of the unit, while in many instances the variety is produced not merely by reversing the unit, but is still further intensified by change of its colour. In fabrics and wall-papers this modification is often met with, as it prevents the monotony that mere repetition may result in; a large pattern spread at intervals over a ground, frequently having a smaller form occurring at regular intervals equidistant from the larger units. There may naturally also be alternation of colour as well as of form merely; hence a very considerable variety may result from but few elements, as we may have repetition of form in one colour, the simplest possible treatment; repetition of form varied by alternation of colour; repetition of colour enlivened by alternation of form; or the most complex development herein possible, alternation both of form and colour.

Other offshoots of the principle of repetition are radiation, counterchange, and interchange. Radiation is the repetition of a form so arranged as that all the units should spring from one point, either spreading out like a fan, as in the anthemion, or arranged in a stellate manner, as in Figs. 234, 243, 261, 268. The term counterchange is applied to a pattern so arranged that the unit of repetition, the repeat as it is in technical language perhaps more generally called, and the ground on which it occurs, shall be of the same form. Instances of this modification of the principle, some of them of an extremely rich character, occur very frequently in Moresque, Persian, Arabian, and Turkish ornament. The term interchange, though very similar to the last, is used in an arbitrary manner, and with a certain limitation of meaning, as it refers to colour only and not to form. Its use is almost exclusively confined to heraldic technicalities. If, for instance, a shield has an eagle or other device displayed on it, the colours of the ground and charge are sometimes interchanged; that is to say, the shield is divided perpendicularly down the centre, and if on the dexter side the portion of the eagle that falls within the half is golden on a black ground, on the sinister side it will be black on a golden ground; in more complex arrangements the interchange may be quarterly, so that if we, for example, have a cross in the centre of a shield, it and the shield, as a whole, will be bisected horizontally and vertically, and the colours of the resulting quarters will then interchange; if, therefore, in the first quarter the part of the cross that is included in it be silver on a ground of azure, in the second the cross will be azure and the field silver, and the same alternation will be carried out in the two lower quarters.

There is undoubtedly a certain charm in the continuous repetition of a pleasing form; hence the abundant use of it in the decorative art of all periods. In the Greek and Roman temples all the capitals in a given structure were alike in character, and in the same way the mouldings and other enrichments, as dentels, &c., were repetitions of the same form throughout. In Egyptian ornament, though commonly found, as in the rows

of sphinx-forms leading up to the temple, it was not so marked a feature as in the classic styles. The satisfaction to be derived by the eye in the repetition of a given form is at the bottom of the abundant use of forms so diverse as the Assyrian guilloche, the Greek vase-necking, Fig. 283, and the diaper in colour and relief so characteristic of mediæval work. We are struck again by a parallel feature in literary art; the ballads of "Oriana" and the "May Queen," by Tennyson, and the "Raven" of Edgar Allan Poe, with its dirge-like refrain of "Never more," owe some of their charm at least to the regular reiteration of a certain name or phrase.

Variation as a principle in ornamental art is, we need scarcely say, the opposite to the various forms of repetition we have just been considering. As symmetry in the lower sense of the word implies the likeness of part to part, and consequently is based on a repetition more or less obvious, so symmetry in the higher sense deals with the general harmony and balance of the mass, but admits due variation of the subordinate details; we say due variation, because where it is carried to excess the work, no matter how pleasing in itself when examined in sections, violates decorative requirements. The true end of variety is to relieve the eye, not to perplex it. Variety of character without a certain distinctness of plan, without certain marked and uniform features on which the eye can dwell, may very readily be felt to be a blemish instead of a charm.

The Gothic cathedrals, where the tracery of each window, the carving in each capital, differs from all the rest, testify to greater mental power, even though imperfectly expressed, than is found in the rigid symmetry and repetition of forms of a classic building; while the Chinese, neglecting symmetry, and overriding it in a morbid desire in much of their work for variation, show still more grievously in the other direction the error of exceeding the golden mean; hence, comparing these, and in doing so we are aware that opinions on the point differ, we should place them in the following order:—Chinese art, symmetry of the whole subordinated to variations of details, low type; Classic art, symmetry of the masses, repetition in the details, good type; Gothic art, symmetry of the masses, variation in the details, highest type.

Amongst the marked features of Egyptian art, one of the most conspicuous is the studied avoidance of anything approaching to uniformity. This variation, both of the masses and of the details, is sometimes so evident as to be at once perceptible, at other times so subtle that though it tells in the general effect unconsciously to the eye, it can only by careful investigation be detected and analysed. In the great hall of the temple of Karnac the capitals are of different heights, and so distinctly so, that the intention can only have been in such an arrangement to avoid a tedious sameness. The outer area of Medeenet Haboo has capitals of fully expanded papyrus on one side, and on the other pillars of Osiride type. These Osiride pillars are so called from each consisting of a square pillar having a figure of Osiris carved in full relief on its face. The figure of the god did not support any part of the fabric. In this respect it differed from the caryatides of Greece, as these latter figures took the place of columns, and bore on their heads the superincumbent weight. Some of the Renaissance architects, carrying a disagreeable idea still further, made these figures crouching and bending as if in pain beneath their burden.

Machinery, as we have already seen, favours repetition, while on the other hand, where liberty of choice is afforded, variation will naturally result in the work of the human mind and hand. The latter is, however, unfortunately a principle in direct opposition to these days of hurry and contract-making, and it also requires a greater amount of thought. The

architecture and ornament of the Early English and Decorated periods of Gothic afford many fine examples of it, while in the Perpendicular the opposite principle has full sway, so that if we have a small fragment of a building of that late period we have the key to the whole, all the rest, panelling, Tudor roses, &c., being but repeats. Henry VII.'s Chapel and the Houses of Parliament afford conveniently accessible illustrations of this. In conclusion, several of the modifications of Renaissance art, as the *cinque-cento* and Louis Quinze work, owe a large portion of their characteristic effect to the variation that, with more or less of good taste, is dominant as a principle in their ornamental forms.

Turning now to our illustrations for further examples, we find instances of repetition as a dominant feature in Fig. 42, a Chinese fret; Fig. 59, a Greek fret; Fig. 149, an Egyptian example; Fig. 259, a design on a Chinese vase in the South Kensington Museum; Fig. 283, Greek in its origin; Fig. 295, a Chinese diaper; Fig. 320, a piece of Gothic stone-carving; Fig. 369, Byzantine ivory work; Fig. 370, a design for wood-carving; Figs. 394, 396, bands of ornament from Greek vases; Fig. 399, German Gothic metal-work; and Fig. 409, a portion of a Norman string-course. These are selected as fairly characteristic examples. Many others will be found on turning over the plates.

Repetition, modified by alternation of form, direction, and colour, may be seen in Figs. 11, 14, 16, 17, 19, 38. Repetition of form, modified by alternation of colour alone, is seen in Figs. 23, 41, 108, 241, 244, 304, 310, and 326. Repetition of form modified by alternation of direction will be found in Figs. 63, 66, 283, 353, 354, 367, 393, and 397; while repetition

modified by the alternation of size alone is exemplified in Figs. 264 and 315.

Alternation, as a principle in the construction of the design, may be noticed in Fig. 37; in Figs. 131, 141; in Fig. 135, a very good Egyptian example; in Figs. 169, 195; in Fig. 299, a Greek border, wherein the alternation is both of form and colour, as it also is in Fig. 316, a very rich piece of Indian embroidery; in Figs. 300, 303, Indian examples, where the alternation is that of flower and leaf; Fig. 302, a design for a flooring tile, wherein the alternation consists of a simple form of leaf with a richer type; as may be seen, too, in Fig. 306, a portion of a Byzantine string-course; Fig. 308, a Greek treatment, the alternation of leaf and fruit; Fig. 314, the alternation of flower and bud; Fig. 309, part of the border of a plate of Hispano-Moorish manufacture, where forms of purely arbitrary character mutually enrich each other by their alternate arrangement; Fig. 352, an early form of Greek anthemion pattern; Fig. 364, a design based on the nut, wherein the foliage and fruit alternate; Fig. 376, a piece of modern wall-paper; and Figs. 398, 413, 417, Greek borderings from vases in the British Museum.

Counterchange we have already in a previous chapter dwelt upon; examples of it may be found at Figs. 3, 14, 16, 17, 19, 21, 22, 23, 32, 35, 36, 90, 111, 112, 122, 129, 244, 304, 305.

The principle of variation is illustrated in Fig. 61, a Chinese fret-like pattern, and a very characteristic way amongst the Celestials of filling up any required space; Figs. 332, 335, 339, Norman examples; in Fig. 333, a piece of Indian window-piercing; in Figs. 334, 336, Italian examples; in Fig. 338, a piece of Perpendicular wood-carving, wherein it will be noticed that, in spite of the stiffness of treatment so characteristic of the period, the principle of variation has been worked out in the diversified treatment of the leaf lobes. Fig. 337 on the same plate is a natural example, a piece of the large scabious; the variation both of form and size in the foliage will be easily recognisable. Many plants show this very well. We must not, however, linger on this point; but our readers will find both interest and profit in trying to find out for themselves natural objects wherein the leading principles

"STYLES."

of ornamental art may be seen duly developed. Examples of symmetry, repetition, alternation, simplicity, complexity, contrast, fitness, and many other art features may, at very little expenditure of trouble, be readily found. Resuming the analysis of our illustrations, we find a very good example again of variation on Plate XXVI., Fig. 371, a portion of a Norman capital, from Mildenhall Church, Wiltshire; and we see it again in Figs. 383, 390, both being taken from stained glass in the South Kensington collection. Fig. 383 is Rhenish; Fig. 390 English, of the fifteenth century.

We have repeatedly in our remarks to bring forward examples of the various "styles," as they are termed, of ornament. It is no part of our present plan to define the general nature of these styles, nor to indicate their special and characteristic features; nor, indeed, is such a course at all necessary, since there are several works of high order that already do this, in some cases dealing with all the leading styles; in others, as the works of Heideloff or Zahn, dealing with some special period. A few words, however, as to the use and abuse of the word itself may not, to our student readers, be altogether out of place, since, while in most works on the subject much is made of the differences, but little often is said of the unity that nevertheless may be found underlying the surface distinctions, nor is it indicated how clearly all these isolated styles are links in one long chain, binding together

the present and the past. The field covered by the follower of ornamental art is so large that there is but little need to run any risk of finding the subject tiresome, since so many avenues of thought are open for our consideration, so many and varied phases of the subject strike us according to the view we take; thus, while one student may give his attention to the various principles that underlie the practice of art, and that crop up with curious persistency and unanimity in styles of ornament apparently most diverse from each other, another follower of the decorative arts may find greater interest in tracing the development and history of the various manual processes by which the mind of the designer becomes translated into a language that all who run may read. To such, the study of the different media, the arts of fresco, mosaic, enamelling, engraving, modelling, and many others, become matters of concern. Other minds, according to their bent, will find yet other sources of interest; while one will diligently seek examples of the influence of religious belief on the modifications of artistic treatment to be encountered in various countries and at various chronological eras, another finds pleasure in tracking the influence of civilisation, and contrasting the rude forms of an earlier era with the latest manifestations of art power of the same people when time and greater experience have produced a digest of art formulæ that at length produce what we term a style, a certain mannerism of treatment that enables us at a glance to declare an isolated fragment Greek, Gothic, or whatever else it may be. We can thus pronounce decisively that a given ornament is Egyptian, even if, perfectly unable to account for its existence there, we were to plough it up in some fair English shire, in just the same way and by the same experience that archæologists, excavating among Egyptian remains, are at once able to say that certain small vases found there are Chinese, though it is by no means easy to say how such things could have found their way to the banks of the Nile.

In using the term style we must be careful not to fall into the error of considering the various epochs of ornamental art as so many distinct periods having no connection with those that have preceded or followed them; allowing nothing for the continuous change, the old giving place to the new, and the external influence brought about by contact with other men and other ideas. We may rather, perhaps, compare ornamental art, as a whole,

to some great river ever advancing on its course, receiving on each side tributary streams, and incorporating them into its own volume of waters, influenced by various circumstances, here expanding into broad quiet pools, there confined by rocks and sandbanks, causing tortuous deviations. The view that many gather from mere book reading, unaccompanied by personal study, is rather, if we may be allowed to continue our figure, that of a series of lakes, some large, others small and insignificant, some abounding in features of beauty, others having but little charm, dotted about in no perceptible order or plan, and having no connection one with another.

It is convenient, for the purposes of classification, to take the central period of any aggregation of characteristic features, and to call that the development of a given style; but in reality there is no pause, style is always changing and cannot be so exactly mapped out and rigidly dated. If we take, for example, our Early English Gothic style, or, as some writers term it, the Early Pointed, we find that some of its most characteristic features are seen in the grouping of shafts, the bold conventional foliage, the deep hollow mouldings, and the dog-tooth ornament; but all these may be traced gradually issuing and changing from the preceding style, the Norman, and in their turn pass in various modifications into a period fitly termed transitional, and duly emerge from it to form what is known as Decorated or Middle Pointed Gothic.

No matter how debased a people, how remote from civilisation, and isolated from all other examples of art, we always find the instinctive desire and love for ornament. The results may appear to us exceedingly rude, quaint, barbarous, even outrageous in their ugliness, but nevertheless we cannot refuse to see in them the evidence of a desire to beautify the forms that their requirements had developed. Hence, we find clubs, spears, paddles, all carved in low relief with geometric designs or grotesque animal figures; the rude pottery, as we have seen in Fig. 237, while still soft, is dented into simple patterns, or slashed by a knife or tusk into concentric or zig-zag furrows; the reed mats, which would have been quite as serviceable for all practical purposes if of one uniform colour, are nevertheless chequered over in many-colour devices, in obedience to this great fact—the instinctive desire for the added grace; not content merely, brute like, with the meat that perishes, but in some dim way feeling something of the Divine, of that spirit that paints the little wayside flower with loveliness, while scattering it broadcast over the earth; that, while enthroned in a majesty no eye can see, no heart conceive, tints with effulgent beauty the little earth-born beetle that glitters in the sunlight.

The influences that have resulted in our modern English decorative art may, strange as it may appear to some of our readers, be traced back for thousands of years, and only cease when we at last reach the land of the Pharaohs. Egypt has been the first parent of almost all European art, and of a great deal of that of Africa and Asia. The Egyptians greatly influenced all those who came in contact with them either in commerce or in war, and more especially, perhaps, the Jews, the Greeks, the Assyrians, and the Persians. We are unable positively to say what the architecture of Solomon's temple was like, but its description in the Bible tallies remarkably with many of the features that are characteristic of Egyptian art. On the occasion of the plunder of Thebes, Egypt's greatest city, by Cambyses, the conqueror carried away with him into Persia a large number of Egyptian artists, and their influence is everywhere yet seen in the valley of the Tigris and Euphrates, at Nineveh, Babylon, and Persepolis; hence it is we find a great similarity in the elements of ornament and an almost identical mode of treatment in the forms of Assyria, Persia, and

Egypt. The Egyptian ornament and figure-sculpture, in its quiet dignity and simple repose, possesses a great charm, and if it had not been so rigidly bound down by the decrees of the priesthood, might have developed to an even greater extent. The Assyrians, not so much fettered by restrictions, introduced more spirit, variety, and action into their work, but lost the grand simplicity of the Egyptian sculptures in petty details and trivial ornaments, elaborately curled beards, heavily - fringed drapery, bracelets, and such - like subordinate matters. In the Asiatic colonies of Greece, and more especially in Ionia, owing to its greater proximity to Persia and Assyria, a similar art-feeling was manifested, but the Greeks of the mother-country derived, together with their commercial intercourse, their ideas on art, sculptural, pictorial, and ornamental, from the purer source of Egypt. The Etruscans, a people of the north of Italy, had originally migrated from Asia Minor, where they had been under the influence of Assyrian ideas, so that many of the remains, such as bronzes and other things, dug up in the north of Italy, bear what, except for the knowledge of this fact in the early history of the people, would be an inexplicable resemblance to similar works found in South-west Asia. The capture of Sardis by the allied Persians and Medes, in the year B.C. 546, opened up another important avenue for the spreading of Eastern influence upon the Western nations. The Greeks borrowed, but speedily improved on their originals, and (though at first, as in the Early Doric, the forms are almost identical with those of Egypt) the two styles rapidly became divergent. At the tombs of Beni-Hassan, executed some two thousand years before the Christian era, are open porticoes supported by fluted columns so similar in every respect to the Early Greek Doric that Champollion and other writers refer to them under the title of 'proto-Doric.' These tombs, like the caves of Elephanta, and many other rock cut remains, are, though carved out of the solid rock, and therefore really monolithic, made to imitate in their details the pillars and ceiling-beams of ordinary building construction. The Romans borrowed the idea of the arch from the Etruscans, who had themselves brought it with them from Asia Minor, where it was largely used by the builders of Nineveh, Babylon, and Persepolis. In the year B.C. 167 a Roman army under Paulus Æmilius overthrew Perseus, king of Macedonia, and pillaged his territories. On the return to Rome of the conquering army with their spoils, a public entry was made into the city. In addition, according to Plutarch, to all the armour and weapons, cups, vases, and general "loot," the pictures and statues alone filled 250 chariots. In the year B.C. 146 the conquest of Greece was completed, and most of the finest works of art were carried off to Rome. The conquest of Greece was consummated in the same year that saw Carthage razed to the ground. The Carthaginians and Greeks had always themselves regarded works of art as fair spoil; they but reaped in turn, at the hands of the all-conquering Roman, the fruit of what they had sown, and supplied the victor with a precedent he was not loth to avail himself of. Napoleon I., in recent times, was a notable offender in this direction, the choicest statues of Italy and other lands that came under his sway being transported to Paris. In ancient Rome the sight of these arttreasures created a body of connoisseurs desirous themselves of possessing such things, and Greek artists were at first employed to supply the demand, and even, when in after years the Romans had themselves acquired sufficient skill to undertake such work for themselves, we yet see the Hellenic influence very strongly marked, so that, either in sculpture, ornament, or architecture, we perceive a great similarity to the Greek types, though almost invariably with the unfortunate drawback of being inferior in point of merit to the forms that had suggested them. We might in the same way indicate many other instances

of the modifying effects of the influence, commercial or by dint of the sword, that nations have held over each other, in the breaking down of any exclusive style, and the introduction of foreign elements: two will, however, suffice. The first of these is seen in the Moorish occupation of Spain and Sicily, the second in the influence of the East on the architecture and ornament of Byzantium. When, in the year 329, the seat of empire was removed from the city of Rome to that of of Byzantium, our modern Constantinople, the city of Constantine, the Roman workers came under the Eastern influence, and exchanged the sobriety of effect of past efforts for the gorgeous colouring of the Orientals. The forms of the ornaments are at this period somewhat rude. It is a time of transition from the old types, now no longer to be used because of heathen associations, to a new art development. While the forms, however, were held suggestive of bygone heathenism, colour was under no such ban; hence we arrive at a temporary but curious interval, where the forms employed were somewhat feeble, while the colouring was rich and effective. In due course the style known as the Byzantine arose into distinct individuality, while in Western Europe a style known as the Romanesque was arising, and was in like manner a modified version of classic forms. Offshoots of this are seen in the old Lombard and Norman sub-styles. The terms Byzantine and Romanesque are almost synonymous; in the later works of each there is no distinctive feature, though in the earlier period the Romanesque, under Latin influence, was simply a debased form of Roman art, while in the Byzantine the Greek influence and the exacting claims of the new religion were modifying elements. After a rigorous exclusion of some four hundred years, when the old forms had no longer dangerous pagan associations, the scroll, the acanthus, and other characteristic classic forms were gradually incorporated.

Our student-readers will now more readily see how clearly our art pedigree may be traced from the land of Egypt; since Greek borrowed of Egyptian, Roman of Greek. Romanesque in turn sprang from Roman, Norman again from Romanesque, while Norman in turn gave place to the Early English Gothic, to be followed by the beautiful but less pure Decorated, followed again by that decay of true art known as Perpendicular, and that in turn to be followed by a still greater fall, the vagaries of the Tudor or Elizabethan.

While in our remarks we are careful to give pre-eminence to the best of our ability, to those principles that appear to us especially noteworthy, and to dwell at some little length upon points that appear to us essential, we would desire at the same time briefly to indicate one danger into which some of our readers may fall; and that is, that they may, after all, fetter themselves, to the cramping and destruction of their natural powers, by a too blind and rigid adherence to even the best rules. There is in most things, and decorative art is no exception, a danger of a servile keeping to the letter of the law, and In the rules and principles that we are laying down from time to yet losing its spirit time the student will do well to look at the spirit, to study the general scope and meaning, rather than to limit himself too narrowly to any beaten track. It is, perhaps, rather a dangerous idea for us to mention to those at least of our readers who are but on the threshold of the subject, since for some little time to come they will do well in allowing themselves to be guided by the general laws that the experience of many ages has developed, but they will, we trust, understand us but to mean that these rules may be subject to modifications that particular difficulties and requirements suggest. Laws, in ornamental art at least, make excellent servants, but not good masters. As an authority in this matter we would briefly quote Sir Joshua Reynolds, who contributed three articles to the "Idler," in Nos. 76, 79, and 82, written in the months of September, October, and November, 1759.

In the first of these he describes the pretensions of ignorant and presuming would-be connoisseurs, who, trusting to narrow rules, are often guided by false principles, and even though these should be correct, are still totally unqualified to form a just estimation of the higher beauties in works of genius; and in this same essay he states as an axiom, that whatever part of an art can be executed or criticised by rules, that part is no longer the work of genius, which implies an excellence that mere rules will not impart; so that, he adds, if a man has not correct perceptions it will be in vain for him to endeavour to supply their places by rules, which, though they may certainly enable him to talk more learnedly, will never teach him to distinguish more acutely. In laying down these positions he does not, however, assert that rules are absolutely injurious to a just perception of works of taste and genius, or to their execution, but merely censures that servile attention to minute exactness that is sometimes inconsistent with higher excellence. In his second essay, in dealing with the question of the direct imitation of nature, he shows that a mere literal adherence would balk every flight of fancy in the painter, such imitation being a species of drudgery to which the painter of genius will not, cannot stoop; one in which even the understanding has no part, being merely a mechanical effort. These remarks were written by him in reference to pictorial art, but they bear with equal force on our present subject. Rules are the product of past experience, and are herein of great value, since we are thus able to profit by the labours of others, and by this means to carry forward our art to a higher excellence; for not to know what has been done in former times is, as Cicero remarks, to continue always a child; while Dr. Johnson, no less explicit, affirms that "if no use be made of the labours of past ages, the world must remain always in the infancy of knowledge. The discoveries of every man must terminate in his own advantage, and the studies of every age be employed on questions which the past generation had discussed and determined. We may, with as little reproach, borrow science as manufactures from our ancestors; and it is as rational to live in caves till our own hands have erected a palace as to reject all knowledge of architecture which our understandings will not supply." Throughout the whole course of our remarks we have been careful, while laying down our own opinions, to give extracts from the writings of others, whether those extracts told for or against our own ideas; and we would earnestly advise all who are really desirous of attaining a good knowledge of the subject to read carefully and diligently sift the opinions of others, and then, but not till then, exercise their own right of judgment, following only the laws of a guide because they feel him to be right, not merely because they are the utterances of one deemed an authority. The man who has thus thought out the matter has a great advantage over the student who trusts merely, with an indifferent assent, to the dicta of others, since, while the one has settled convictions, the other drifts helplessly amidst the turmoil of conflicting opinions. As an example of these disturbing influences, and a further illustration of the proverbial disagreement of authorities, we may mention that while Dresser advocates the use and juxtaposition of green and purple in a design, these colours thus employed are, according to Sir Gardiner Wilkinson, the worst kind of discord. Ruskin says that blue and green form the most beautiful harmony of all, instancing the tints seen in the plumage of the peacock, and the beauty of the fresh green spring foilage when seen against the azure of the sky. Wilkinson, on the other hand, holds in his writings that these colours, when combined together, are deficient in harmony. Dyce, in his report on foreign art schools, says, in speaking of one of them, that "the only questionable point is the regulation which obliges all the pupils to undergo a course of study of the

be seen.

human figure. This seems to me," he says, "unnecessary, because under no circumstances can such study become available to the occupation of a designer for silk:" while Ruskin in one of his books declares that "if you want to learn how to treat the leafage, the only way is to learn how first to draw the figure. All great ornamental art whatever is founded on the effort of the workman to draw the figure, and in the best schools to draw all he saw about him of living nature. You must raise your workman up to life, or you will never get from him one line of well-imagined conventionalism; raise men as high as you can, and then let them stoop as low as you need. The necessity of animal and figure drawing is absolutely certain, and no person who shrinks from it will ever become a great designer." We might, no doubt, further multiply examples of such divergence of opinion amongst those who are held to be authorities on the subject, but no useful end would be gained. We only desire, in mentioning these few, to impress upon the student the desirability of personal thought and study, and a due exercise of the right of private judgment, in addition but not in antagonism to the study of the opinions of others.

Resuming our consideration of some of the salient features of decorative art, we now turn our attention to the use of architectural forms as an element of ornament, apart from any considerations of use or of constructive necessity. Such forms were thus largely used by the Romans, as we may see in many Pompeian wall-paintings, where columns, long arcades, and other forms, belonging rightly to architecture, are simulated and painted as wall decorations. Even if this practice could be defended on other grounds, to the trained eye the laws of perspective give an air of falsity to the whole thing, as the objects thus painted, if right in appearance from one given point of view, are wrong from every other. It labours further under this disadvantage, that the truer the effect, when successfully treated, the result is but the greater sham, as the more the impression of distance lengthy corridors and such-like-is created, the less defensible is the practice. The backgrounds used as an additional charm by portrait photographers are often architectural in character, and, therefore, unless very simple in treatment, and composed of forms parallel to the plane of the picture, false in effect. A carefully worked composition of this nature, while wrong in effect in most views, is, as we have seen, correct from one point, but many of the architectural backgrounds we see, are, from want of knowledge on the part of the draughtsman, not even correct under this necessary limitation of view, but are wholly wrong and impossible. In the Gothic styles, and more especially in German work, this false use of constructive forms is frequently largely met with; a buffet, cabinet, or bookcase being covered over with canopy-work, tracery, buttresses, pillars, and many other forms belonging really to construction in architectural work, but in these cases used arbitrarily as a means of decoration, and not in any way of utility as elements of strength. In modern work this objectionable

In paintings executed during the fifteenth century, whether illuminations, cabinet, or altar pictures, the upper part is frequently worked in arcades, either in relief, when it formed part of the enclosing frame, or in gold and colour on the work itself. It was generally a conventional means of intimating that the scene represented was to be considered as taking place within some building, though sometimes even out-door subjects have these arcading forms. In painted and stained glass this kind of architectural treatment—the arcade or canopy—has always been a marked characteristic, occurring both over single figures or groups. There are two very distinct modes of introducing it: first, as surface decoration, quite flat

system of decoration is not so often met with, though examples may from time to time

in treatment, a characteristic of the early part of the fourteenth century; secondly, as the style advanced, representing all details in a much more realistic manner, imitative rather than, as in the earlier work, suggestive, and under strong fictitious light and shade. In monumental brasses, the same forms are seen, and under the same modifications of treatment, according to the date of execution. The use of arcade and tracery forms as elements of decoration, apart from any structural requirement, may be very fairly seen in many fine pieces of old wood-carving in the South Kensington Museum. We saw some little time ago a street drinking fountain, where the principle had been carried to excess, having four shafts sustaining four semicircular arches, each crowned by a gable; from the centre of these rose a roof-like form, each face having a fictitious dormer window duly traceried, this again being crowned by a spire also duly, or unduly, furnished with traceried lights at intervals, while at the angles of the base of the roof were small projecting towers fringed with battlements, a strange compound altogether of the mediæval cathedral and fortress, and altogether outrageous when applied to a modern drinking fountain standing some eight feet high altogether; and that certainly did not need the force of religious association to give it value, while the allusion to the police, and a contingent fine of forty shillings to be levied on any one found injuring the structure, was certainly no less a stronger defence than any number of Lilliputian battlements or array of eight-inch towers.

Many considerations of construction do certainly, in a legitimate way, affect the more strictly ornamental parts of a design; thus, in Greek art the large use made of wooden beams or blocks of stone, passing from pillar to pillar, greatly influenced the forms; wood construction being generally rectilinear; metal, curvilinear, as we see in the spans of iron bridges or the roofs of our large railway stations; while stone admits of either form, a large span being generally arched, as in Fig. 425, while single large stones may be placed horizontally when the openings are small. Of this Stonehenge is a familiar example. In brick construction, horizontal lines and bands of colour are highly characteristic. This treatment of otherwise blank surfaces of wall is very commonly met with in Italian buildings. A more easily accessible example to some of our readers may be seen in the parsonage and church of All Saints, Margaret Street, London, where a red brick building, four storeys high, has thirty horizontal bands of darker brick running at intervals across its face. In some of the chalk districts of England, and more especially in the western counties, economy of material, ornamental effect, and constructive strength go hand in hand in the alternate layers of flint and brick that give so marked a character to the buildings in which they are employed. The old timber-framed and panelled houses found throughout the country give us another example of ornamental forms growing out of the necessities of construction, while in the concave curves of the roofs of Chinese houses and temples we trace the influence of the tent form, the primitive home of an early nomadic race having stamped its character on the more permanent dwellings of succeeding generations.

An ignoble use of armour and such-like objects may occasionally be found. Examples are more especially to be met with in some of the Renaissance carvings, where mere cast-off heaps of warlike harness, swords, trumpets, breastplates, or helmets are grouped together, or at other times, violins and music-books, contrary, as we think, to all canons of good taste and feeling. Examples of these trophies, as such groupings are termed, may be seen in the fine collection of original works and casts in the South Kensington Museum. Instances may, however, occur where instruments of war, of art, of agriculture, or of commerce, may be very legitimately employed as accessories and as symbols, to assist in defining and

illustrating the purpose of any building or monument; thus, for example, amongst the mosaics adorning the tomb of Napoleon I. we find the sceptre wreathed with oak, the sword, and Imperial crown, and we recognise an especial appropriateness in their introduction under such circumstances. Drapery is occasionally used, not as an accessory to the human figure, but as a principal; its use under such circumstances cannot well be defended. A very favourite design in some old houses of Perpendicular period is known as the "linen pattern," or "napkin" ornament. The whole of the lower portion of a room is frequently divided into small panels, each being filled by a design of this character. The false use of armour, instruments of music, and drapery, for decoration, is mainly confined to Roman and Renaissance work, but the false use of architecture itself, as an ornament and element of decoration, is conspicuous at times even in some of the noblest examples of mediæval art. In all bas-relief work architecture may be legitimately introduced as an explanation of the scene in which the figures are actors, though the details require to be kept in a subordinate place, as in the accessories to some of the groups of Roman warriors figured on Trajan's column, or, again, in the panels of the celebrated gates of Ghiberti. All representation of human work as an ornament is, as Ruskin has clearly illustrated in his "Stones of Venice," conditional on its being necessary to the representation of a scene, or as being explanatory of some action or event. On no terms whatever, it appears to us, can any such subject be independently admissible. The porches of Bourges, Amiens, Dijon, and Nôtre Dame may be noted as supplying illustrations of this error, as in all of them small models of towns with diminutive battlements, doorways, and windows, cathedral spires and towers, are introduced as independent elements of decorative effect.

All ornament may be classed under one of two great heads—surface ornament, or relief ornament; that is to say, flat, like a wall-paper for example, or rounded, like stone-carving; in the one case the work of the painter, in the other the work of the sculptor. Occasionally fictitious effects of relief are produced in surface decoration, while we often find that relief ornament has its effect legitimately enhanced by the application of colour, as in Egyptian, Moresque, and Gothic work. In view of this we need scarcely say how important a principle the use of colour in ornamental art becomes, while it is perhaps of all others the most difficult to settle and control by fixed laws, for, as the shades and modifications of tone in colour may be varied infinitely, it is evident that a very slight deviation from the letter of the law will result in quite different conditions of effect. If, for instance, a law of the colourists requires scarlet in a given place, and a scarlet inclining to orange is used, it will have quite a different effect in itself, and upon all the other colours with which it is in juxtaposition, to that produced by a scarlet inclining towards crimson. If, for instance, again, we desired our readers to colour us any given design yellow and purple, it is extremely probable that though all came within the required conditions, no two would be alike in colour. Rules of colouring it will therefore be seen, are necessarily vague, since, while they are valuable in defining general principles, in the application of them a great deal must of necessity be left in the details to the more or less educated eye and taste of the designer. We do not propose to go at any length into the theory of colour as influenced by light and optical laws, but for our present purpose dwell rather on the general principles that may prove of value to the practical designer in the management of his pigments. There are three colours incapable of being produced by any mixture of other colours-red, blue, and yellow; these, therefore, are termed the three primaries. From the combination of any two of these the secondary colours are produced, and they, too, are three in number-green,

COLOURS. 101

produced by the mixture of blue and yellow; orange, produced by the mixture of red and yellow; and purple, by the mixture of red and blue. The secondary colour produced by any two primaries harmonises with, and is technically said to be complementary to, the remaining primary; thus green, compounded of blue and yellow, is the complementary colour to red; purple, compounded of blue and red, is the complementary colour to yellow; and orange, the result of a mixture of red and yellow, is the complementary colour to blue. In optical science the combination of the pure colours of the prism forms white light, but in dealing with the pigments of the designer, the mixture of the three primaries in a certain proportion results in black, and in various other proportions in the numerous varieties of browns and greys, the infinity of shades and tints used in pictorial and ornamental art. Blue and orange form the best harmony when in about equal masses in a design; green should be to red nearly in the proportion of two to one, while purple should be in proportion to yellow nearly as four to one. The mixture of any two secondaries results in a tertiary colour. Of these, also, there are necessarily three—citrine, olive, and russet: citrine being compounded of green and orange; russet, of orange and purple; and olive, of green and purple. Russet, being made by the admixture of orange and purple, colours compounded respectively, as we have seen, of red and yellow, and of red and blue, naturally partakes of a reddish tone, as that primary is the predominant colour. Citrine, being made by green and orange, both of which contain yellow as one of their primary bases, is yellowish in tone; while olive, the product of a mixture of green and purple, inclines to blue. As all the primaries occur in varying proportions in each tertiary colour, and as we have already seen that a due mixture of red, blue, and yellow results in black, we necessarily find the tertiaries very dull in hue. It is a constant rule in the practical management of the pigments that the more colours are mixed together the less pure will the result be, so that a better orange in water colour painting, for example, will be produced by a wash of cadmium, or Indian yellow, laid on the paper and allowed to dry, and then followed by another wash upon it of carmine, than by the mixture of these two colours on the slab. This process will only apply to transparent painting; where colours are opaque, putting a second colour over the first would simply obliterate it. The effect of a given colour may be, however, produced by the juxtaposition of its elements; thus, a fabric covered with small stripes alternately of pure blue and crimson will appear purple; the addition of a finely-ground blue powder to a yellow will give the effect to the eye of a pure green. The orange-tip butterfly, Euchloe Cardamines, one of our commonest spring insects, furnishes us with a good natural illustration, as the lower surface of the hind wings appears to be covered with blotchings of dull green. Under a powerful lens, however, this effect disappears, being resolved into a combination of bluish black and bright yellow scales, the resulting green being merely the effect to the eye of the juxtaposition of these minute particles of colour. Where a primary colour shows a tendency to verge into a secondary, as in the case of a greenish-yellow, its complementary secondary should also partake of the change; thus, a greenish-yellow requires a reddishpurple in preference to a blue purple; an orange red requires a bluish-green. There is, of course, no necessity that these theoretical views should be always strictly followed. The effect of so rigid an adherence would be sameness and undue limitation; but it is well to be acquainted with these rules, forming, as they do, the basis of colour harmony. Those of our readers who care to pursue the subject at greater length will find Sir Gardiner Wilkinson on "Colour and Taste," Church and Chevreul on "Colour," or Field's "Chromatography," full of very valuable information, not only theoretical but also practical; the first and second dealing

more especially with the harmonies of colour; the third treating of the practical values of various tints in actual design; the fourth dealing more especially with the nature, properties, and permanence of the pigments employed in artistic work. In the introduction to "The Grammar of Ornament," by Owen Jones, will be found several axioms of value, while those who care to investigate the question of the colouring of the buildings and statuary of the Assyrians, Greeks, and Romans, will find in the works of Semper, Hittorff, Penrose, and Winckelmann much that is interesting. As we have already, in our preceding remarks, urged the importance of personal study and investigation rather than tacit acquiescence in the opinions of others, so we again dwell upon its importance in the present matter, since a mere reliance on the dicta of authorities may at times have a rather perplexing effect on the mind of the student: thus, Field, for instance, says that yellow is an advancing, and purple a retiring colour, while Ruskin writes, "It is a favourite dogma among modern writers on colour that warm colours, reds and yellows, approach or express nearness, and cold colours, blue and grey, retire and express distance. So far is this from being the case, that no expression of distance in the world is so great as that of the gold and orange in the twilight sky. Colours, as such, are absolutely inexpressive respecting distance. A blue bandbox set on the same shelf with a yellow one will not look an inch further off. It is quite true that in certain objects blue is a sign of distance, but that is not because blue is a retiring colour, but because the mist in the air is blue, and therefore any warm colour which has not strength of light enough to pierce the mist is lost, or subdued, in its blue; but blue is no more on this account a retiring colour than brown is a retiring colour, because, when stones are seen through brown water, the deeper they lie the browner they look, or than yellow is a retiring colour, because, when objects are seen through a City fog, the further off they are the yellower they look. Neither blue, nor yellow, nor red, can have, as such, the smallest power of expressing either nearness or distance; they express them only under the peculiar circumstances which render them at the moment, or in that place, signs of nearness or distance. Thus vivid orange in an orange is a sign of nearness, for if you put the orange a great way off its colour will not look so bright; but vivid orange in the sky is a sign of distance, because you cannot get the colour of orange in a cloud near you; so purple in a violet or a hyacinth is a sign of nearness, because the closer you look at them the more purple you see; but purple in a mountain is a sign of distance, because a mountain close to you is not purple, but green or grey. It may, indeed, be generally assumed that a tender or pale colour will more or less express distance, and a powerful or dark colour nearness, but even this is not always so; the rosy colour of sunset on snow is pale on the snow at your feet, deep and full on the snow in the distance, and heathery hills will usually give a pale and tender purple near, and an intense and dark purple far away." Again, one writer says, "The very general use of the primaries, frequently with the addition of black and white and a little green, marks the taste of people before they become artificial, and before the true perception of colours becomes blunted; and experience abundantly proves that at first pure taste showed a preference for the primaries, and that it was only when it began to be corrupted that a superabundance of the secondaries was admitted." And again, in another place: "In all cases of polychrome ornament the three primaries should greatly predominate, and, indeed, they may be used alone with good effect; a preponderating quantity of the secondaries or tertiaries is far from agreeable." Another writer advocates the use of the primaries on small surfaces and in small quantities, balanced and supported by the secondary and tertiary colours on the larger masses; while a third, differing from both, says that, "in

the choice and display of colours, we find crude, natural, and uncultivated taste, as in children and savages, delighting in and employing entire and primary colours, and harsh, unbroken, or whole tones or notes in their music; but as taste and sober judgment advance, sense becomes more conciliated by broken colours and half-tones in music." We bring forward these conflicting statements, and shall continue to do so from time to time, not in any way to shake the faith of our readers in these authorities—for all these opinions contain a truth in them worth discovering and thinking about, in spite of their discrepancies—but in order that we may induce those who peruse our remarks not to pin their faith exclusively to any one set of opinions, without thinking over and sifting all that may be said for or against any given view. In discussing the subject, harmony of colour has too often been limited to a mere general similarity of colour; thus Leonardo lays down the law that harmony requires colours to be of the same nature, contrast being produced by bringing colours of an opposite nature in contact. Contrast may certainly be so produced, but it is quite possible to produce harmony by contrast as well as harmony by analogy or similarity of colour; the term contrast cannot be used altogether as an opposite of harmony. Harmonies may be of many kinds. Sometimes they may be produced by the opposition of warm and cold colours, such as blue and orange, forming at once an instance of contrast and harmony. Scarlet and blue, gold and black, are other examples of harmonious effect. There may also be harmony by similarity; thus crimson and brown and gold afford a beautiful harmony by analogy. In nature we see an illustration of this in the primrose, where the sulphurcoloured petals of the flower have each at their base a spot of orange, forming a fivepointed star of richer colour in the middle of the blossom; and we see the same combination again in the brimstone butterfly, Gonepteryx rhamni, where the plain sulphur wings have each of them a bright orange spot in the centre. The wings of this insect are extremely refined in their curves, and combined with their brilliant colour, render it a beautiful object as it flits by in the opening days of spring. There may also be harmony of tone or hue, producing a monochrome effect, as in a light blue pattern on a dark blue ground. Varieties of a colour are hues; hence Prussian blue, cobalt, indigo, ultra-marine, are all various hues of blue; light red, Indian red, vermilion, crimson lake, are various hues of red; while various intensities of any given colour are called tones. If, to use a familiar illustration of the difference between tones and hues, we get a slab and rub on it a little cobalt, a little indigo, and a little Prussian blue, we have as a result three distinct examples of hues of blue; but if we take crimson lake and rub in one place a strong deep mass of colour, in another place a second, but not so deep, and in a third make a still lighter rubbing, we have produced three distinct tones of the colour selected-crimson. All these may be again modified into tints by the admixture of white, or shades by the addition of varying proportions of black. Some of the most pleasing harmonies of colour for a design are blue and orange, blue and scarlet, blue and white, gold and green, gold and blue, gold and crimson, gold and purple, gold and scarlet; this last-from the greater analogy of the two being somewhat inferior to the others, gold and purple, for example -being preferable. If more than two colours are taken, the following will be found to give rich effects of colour: blue, scarlet, purple, yellow, and black; blue, scarlet, yellow, and a little green; blue, scarlet, gold, and white, a very favourite combination in Moresque work. Some colours, it will be found, are agreeable, but yet wanting in full richness of effect; the presence of another colour is needed to complete the harmony. Purple and brown, good in themselves, are made much better by the introduction of a creamy yellow; while the juxtaposition of other colours

produces positive discord; thus slate colour and green, drab and lilac, blue, black, and green, blue, pink, and green are not suitable, if used alone, for ordinary decorative purposes. The naturalistic argument, if we may so term it, is occasionally brought forward in defence of certain colour arrangements; it certainly, however, does not follow that combinations of colour found in nature will always bear transferring to art. If we are prepared to go to the length of asserting that all we find in nature is beautiful and suitable for reproduction, we shall speedily find that our theory requires us to receive, as equally good, the most opposite combinations of colour, the most diverse forms; to admire equally the livid purple of the nightshade, the pure gold of the buttercup, the rich crimson of the pheasant's eye, to see equal grace in the antelope and the pig. We derive, to take an instance, a great deal of pleasure from the pure turquoise blue of the forget-me-not flower, as it springs from the midst of its verdant surrounding foliage. This, doubtless, is to some extent caused by the associations connected with the flower, and the enjoyment we have felt in its contemplation while wandering in the sunshine by the banks of the river-an enjoyment insensibly heightened by all the collateral rural influences; but, whatever the influence, it is one of those examples of perfect natural beauty that will scarcely serve as suggestions in colour, since light blue and bright green alone can rarely be quite satisfactorily brought into juxtaposition in a design. A similar difficulty would occur in adopting the beautiful warm and cold purples of the blossom of the annual garden pea, for beautiful as they appear to us in the natural flower, it would be scarcely possible to bring the two colours pleasingly together . in an ornamental composition. The contrast of blue and green is satisfactory in the cornflower, where the green is subdued in tone and in somewhat small quantity, the deep pure blue of the flower being dominant. It is not a common combination in plants. If our readers have never thought of it before, they will be surprised to find how few the blue flowers are in nature when compared with those of other colours. We see and admire the combination in the deep blue of the sky, seen through the rich green masses of the early summer foliage, but it is one thing to enjoy that with all the pleasant thoughts derivable from the scene and season, and quite another to introduce dead masses of blue and green paint in an ornamental scheme of colour, in the hope that as the one was so enjoyable, so, too, the other must of necessity be. We trust that we shall not be misunderstood in these remarks, for while we desire to caution the student against the erroneous idea that every form and combination of colour found in nature must necessarily be suited to the purposes of ornamental art, we desire also most fully at the same time, and that, too, very warmly, to advocate the closest study of natural growth, being very fully persuaded in our own mind that he who studies Nature most thoroughly in all her varied phases will be of necessity a better designer—granting equal amount of technical knowledge and skill—than the man who contents himself with a few abstract types and forms, beyond which he never suffers himself to stray into the profusion of natural beauty around him. In colouring a design it is necessary to consider the effect that juxtaposed colours will have on each other, a matter that necessitates more thought than is at first sight apparent. If, for instance, we take a band of orange and place it between two bands of yellow, it will, by force of contrast, look almost scarlet; if, however, we place that same band of orange between scarlet bands, it will, by the same force of contrast, appear yellow. It will be seen, therefore, that we cannot depend upon a colour even looking what we intended it to look, as it may thus act upon others, and in turn be so re-acted upon as to completely alter its tone, unless we first carefully think over our general scheme of colour, and in so doing make allowance for this disturbing influence. We might easily multiply

instances, but one more example will suffice. Red and blue bands of colour side by side will, as we have seen, borrow from each other and give a purple effect; if, however, a thin band of white be interposed, each will then have its own proper quality of colour. There are several other general considerations that a designer will soon feel the necessity of bearing in mind, such as the different effect of a coloured decoration by daylight or artificial light; the desirability of a reasonably even distribution of colours, so as to avoid having large masses of a colour in one part, and little or none of it elsewhere; and the influence of symbolism in controlling the choice of colours under certain circumstances. We need not, however, dwell upon these.

In conclusion, we would desire to bring before our readers some notice of a peculiarity that may possibly, we may charitably hope, account for some of the examples of bad colouring that occasionally meet our eyes—the inability of some persons to truly see colour -a peculiarity generally termed colour-blindness. We have, from time to time, in our own experience, met with such cases, and we need scarcely say that this defect at once very seriously unfits a man either to follow the arts pictorial or decorative, or to sit in judgment on the works of others, while a signalman on the railway, to whom green and red lights looked alike, would speedily be the cause of disaster. We see the importance of the consideration again in the case of sailors, lighthouse-men, coastguards, and all concerned in coloured signals, the draper with his goods, or the chemist or doctor's assistant, who, in all good faith, might serve out the poisonous green crystals of the sulphates of iron or copper for the harmless white crystals of alum, or the yellow ones of sulphur. Colour-blindness seems to be a modern affection of the eye; it is, at least, nowhere referred to by ancient or mediæval writers. The most remarkable cases are those where people are blind to all colours, and see everything in black, white, and varying shades of grey. When we consider how much pleasure and beauty are utterly shut out from such, we are glad to know that such cases are extremely rare. Somewhat more common cases occur in which the person is unable to distinguish such colours as browns and greys, while, perhaps, the most common of all is the inability to distinguish between red, blue, and yellow, and their complementary secondaries, green, orange, and purple. Instances have been known where blue and yellow were the only colours visible, everything appearing of one or other of those colours. We met recently with a case where a gentleman, to whom we were showing the sketch of a plant, confessed himself unable to distinguish the yellow flowers from the green leaves, either in nature or the sketch. Inability to distinguish pink from pale blue is a common failing. A Dr. Wilson in the course of his practice met with so many cases that he wrote a bulky volume on the subject, and it is his opinion that about one person in every fifty mistakes red for green, brown for red, brown for green, purple for green, or red for black; and including all kinds and greater or less degrees of this colour-blindness, he goes so far as to say that one in every twenty is to some extent colour-blind. We cannot but think, however, that this estimate is too high. The doctor's opportunities of judging would probably be chiefly amongst those who were in delicate health, and though this colour-blindness is a permanent defect, and not a thing that comes and goes according to the general state of health, still such persons, in consulting their medical adviser, would probably speak also of their inability to see colours as others saw them, either as a thing in itself, or in the belief that it might be one of the symptoms of the ailment for the cure of which the doctor's aid was desired. We must bear in mind the obvious truth that those only who suffered would speak of it. He would hear nothing of it from the thousands who were exempt; and with, all respect, therefore,

to his far superior opportunities for coming to a right judgment, we yet, as we recall the hundreds of artists, designers, art-students, and others we have met with, cannot but think the average too high. It is a curious fact that many persons have been colour-blind for years before at all suspecting it. Where colour-blindness does occur, it is generally a family and hereditary failing. In one family, for instance, that came under Dr. Wilson's observation, were three brothers; one could only see anything black and white, while the other two confused orange and green. In another instance a man saw always pink and blue, red and green, and could, therefore, for example, only tell cherries from the leaves by the difference of form; his father, one of his sisters, and her two sons, all had the same defect. In another case six sons in one family were all colour-blind. According to Prevost, it occurs in one person out of twenty. Leebeck found five cases amongst forty men indiscriminately chosen in Berlin; while a Professor Kelland, of the University of Edinburgh, found only three cases amongst one hundred and fifty students. On the continent this peculiarity is called Daltonism, from a Professor Dalton, who was only himself conscious of yellow and blue, and quite unable to distinguish any difference in colour between the green grass and his scarlet Oxford Doctoral gown. In the city in which Dr. Wilson resided, and wherein he made the greater number of his inquiries, he found amongst others, four artists, three surgeons, two dyers, two stationers, a manufacturer of shawls, and a clothier, all decidedly colour-blind. We mention these instances more particularly because one would imagine that in such cases detection of the failing must of necessity speedily have taken place; in fact, that its existence would at once have debarred the subject of it from carrying on their callings. It is a very curious fact that out of the hundreds of cases that have been brought forward by the various writers on the subject only six are on record in which women have suffered in any way from this Daltonism or colour-blindness.

## CHAPTER VII.

Naturalism and Conventionalism Old Work not necessarily Good Work—Egyptian Art Based on Natural Forms of Egypt—The Acanthus—Conventional Character of Eastern Art - Moorish and Persian Art—The Fountain of Lions, Alhambra—Chinese and Japanese Art—Ruskin on Naturalism and Conventionalism—Opinions of Worman, Hudson, Wilkinson, and others—Sir Joshua Reynolds on Imitation of Nature in Art—Chinese Pottery often a Fac-simile of some Natural Fruit Form - The Principle of Fitness—The Distinction between the words Designer and Decorator—Horse-shoe Breast Pins—The Demand for Novelty—Improvement in Design since 1851—Ornament Subordinate to Utility—Venetian Glass—Fitness of Ornament to Material Employed—Earthenware Baskets and Straw Hats—Fitness of Ornament to its Scale and Position—Natural Instances of Fitness: the Pine, Dodder, Ivy, Water-Buttercup, &c.—The Tiger, Penguin, Apteryx, Humming Birds, and Swift The Principle of Contrast—Contrast of Texture, Surface, Form, or Colour—The Value of Analysis of Ornamental Forms—Simplicity or Complexity of Treatment—Complexity often a Sign of Decay—The Doric Order—Natural Examples of Simplicity and Complexity of Form—The Interlacing of Lines—Strap Work—Cord Interlacing—Old Irish Crosses and MSS.—Early Italian Art—Heraldic Knots—Intersection—Interpenetration.

WE now propose to enter at some little length into the vexata questio of the naturalistic or non-naturalistic treatment of the various organic forms, animal or vegetable, that enter so commonly into the details of our ornamental treatment; to endeavour to throw some light on this moot point; and to indicate to the student not our own ideas alone, but also more especially to bring forward the opinions of some of the numerous writers who, from their position and experience, we feel justified in citing as authorities. The student, on turning over the pages of one writer after another, will probably on this point, as on many others, find himself growing somewhat bewildered by the varying advice he receives from his authors, finding precepts that are, if not directly antagonistic, at least so arbitrary in their differences, that he derives little or no help from their perusal; the question of the due amount of healthy naturalism or decorative conventionalism being, like the fights of the Guelphs and Ghibellines, or the more modern contests of the Classic and Gothic factions in architecture, a question that is apparently repeatedly being settled, and yet as persistently breaking out afresh; hence, while we have fixed ideas of our own on the point, it is only just to say that there is considerable difference of opinion, since the whole question is one of degree, and one will more stringently than another, in such a case, draw the line. As the trumpet on the eve of battle should give forth no uncertain sound, we will at once, as clearly as possible, indicate our own feeling in the matter, and naturally, holding this opinion, we think it the true one, the solution of the difficulty.

The forms of nature, so varied in character, so rich in detail, are full of suggestive material for the designer, and will ever be found a storehouse filled with graceful and appropriate motifs to aid him in his work. As the best reproduction, however, of these would be but imperfect, and could only fail in its endeavour to convey to the mind a dim suggestion of the pristine gratification afforded by the real plants in all their natural loveliness, and as such attempt, even if successful, would be out of place, being pictorial, not decorative, adaptations of these natural forms, suggestions of their natural beauty under such measure of conventionalism as would render them pleasing ornamental features, while at the same time reminding us of the natural floral form, so far as the

circumstances of the case render desirable, are far preferable to any attempt at realism. Nature should not be merely copied and applied, her beauties should be rather adapted; the rose that in the sun-lighted garden is loveliness itself is monstrous when, with full attempt at relief, we see it attempted in its delicate tints and gradations of colour in the square stitches of wool-work in a chair-cover. The more perfect the imitation of nature, moreover, the greater the mistake. Our objection to the rose on the carpet or chair-back does not, therefore, arise from its being a distortion and libel of nature merely, but from the fact that in any case its presence is undesirable, its place being inappropriate. The greater respect we have for the loveliness of nature, the less should we care to crush its counterfeit presentment beneath our feet; while in addition to this, the wealth and variety of nature is singularly ill-represented when a naturalistic group of flowers is by the exigencies of manufacture rigidly repeated in fac-simile at regular intervals. While, however, it appears to us totally wrong to merely reproduce nature imitatively as nearly as our imperfect means will allow, it is, we think, almost as great an error persistently to ignore her. While, on the one hand, the naturalistic treatment of oak spray in Fig. 392, from a Decorated Gothic example, errs on the first ground, the Elizabethan carving, Fig. 384, is as objectionable on the other account, since in it the designer, while professing to give ornament of a foliate character, has persistently ignored the first principles of vegetable growth. In the Decorated example, the spray of oak is strictly naturalistic in treatment; beyond a general balance of masses, there is nothing done to in any way adapt it to its new function; nor has it any connection, as in the purer style that preceded the Decorated, with the surrounding mouldings; for while in the Early English or Early Pointed style the conventional foliate ornament always sprang from the mouldings, was thus incorporated with the work, as in Fig. 360, and became part and parcel of it, in the Decorated the forms are not merely more naturalistic, but cease to show this principle of growth, and instead of springing from the constructive lines, appear only as wreaths encircling the columns, or as detached sprays in some way adhesive to the face of the work, a feature by no means so pleasing to the eye nor so satisfactory to the mind. In the best ornament it will always be found that the point of attachment is clearly to be traced, that there is always somewhere a definite growing point from whence all the lines spring, Fig. 387, and to which they can again be traced. The Egyptian remains, so valuable in many directions as guides, do not fail us here; we feel at once, on looking at Fig. 195, the great and additional beauty that the definite and rigid line gives as a base to all the forms that spring from it. This very beautiful example may be seen on a kind of tablet before one of the large figures in the British Museum. The figure is of a black basaltic stone, and stands amidst the effigies of gods and goddesses that fringe the central walk in the large Egyptian saloon. Only a portion of the ornament is here shown, for above this other lines of equally characteristic forms are introduced, and only the necessity of gaining as great a variety as possible in our illustrations has prevented our giving more of these. The Early Decorated is perhaps the art period best fitted to furnish us with exemplars of the true treatment of vegetable forms; for while the Early English or thirteenth century Gothic, though often exceedingly fine, errs perhaps somewhat in presenting little variety of form, and the fourteenth century work, avoiding monotony, is too literal in its treatment of the profusion of natural forms therein represented, the intermediate and transitional period neither errs in ignoring natural beauty nor in too servile a treatment of it. Fig. 397, a portion of a running moulding, from the doorway of the Chapter House at Rochester Cathedral, and dating about A.D. 1340, is a very good example, the leaves being sufficiently true to natural forms to derive, on that account, added interest, while the whole treatment is sufficiently coventional to satisfy decorative requirements. A very good cast of the entire doorway may be seen in the South Kensington Museum. Our readers will notice that the law of growth, of which we have been writing, is here strictly observed, as the central waved stem, from which all the leaves are given off, appears at regular intervals through the circular openings, and so far from being ignored, rightly becomes an additional and valuable element in the decorative effect of the whole. Of the other art periods that are more especially English we need say but little, as the twelfth century work dealt rather in its ornamental details with arbitrary forms, like the zigzag and cable mouldings, than with representations of animal or vegetable forms, though, when introduced, they were often, as in Fig. 412, in spite of the rudeness of the art, very good in conception and artistic in feeling; while in the decaying Gothic that succeeded the fourteenth century work, the forms are often harsh, the vigour and truth of nature is ignored, a lifeless repetition of a few set forms is felt, and the work is curious, if of interest at all, rather as a piece of manipulation than on any higher account; the gouge or chisel-marks, so commonly spotted over the foliage, still further giving it a laboured and non-natural appearance. The Elizabethan period, of which Fig. 282 is an example, exhibits a still greater fall, the medley of strap-work, sham jewels, and barbarous foliate forms that we often meet with in houses of this date being frequently irremediably and utterly bad, and in its childish character and petty complacency in mechanical skill exhibited, added to its resolute ignoring of nature, the delight in man's device and not in nature's loveliness, is simply contemptible. We are of course aware that examples of an exceptional and higher character may be brought forward, since there is no art so bad but has its occasional glimmerings of better things, as there is no art so pure and good that it presents no faulty examples; our remarks, therefore, must be considered as generalisations, and descriptive of the great mass of the works of any period to which we may refer. The student will do well to study, on the one hand, the works of those who, like the Chinese, appear to place themselves frequently beyond the pale of what we ordinarily accept as canons of taste; on the other hand, not slavishly and without due appreciation to feel bound to admire a thing because it has been dug up in Greece, or sculptured in some crumbling old northern cathedral. "The ornament of past ages is the tradition of the ornamentist, and tradition ever hands down to us things good and bad, both equally consecrated to most minds by the authority of time; but a moment's reflection will show how necessary it is to discriminate before receiving anything on such authority. A church or temple built in a rude age remains undisturbed by some happy chance; a villa or theatre in a remote provincial town escapes the fatalities of accident and time; some tomb is opened, some overwhelmed city is exhumed from the débris of ruin that had gathered over it. The ornamental details found therein are copied and illustrated by the notes of antiquaries, and published in the proceedings of learned societies, and are by many at once regarded as authorities for imitation; it being forgotten that they were perhaps the works of obscure provincial artists, of a barbarous age, perchance, or of a people with whom art, no longer studied for its principles, had ceased to progress or had rapidly declined."

The mediæval period on the continent tallies very nearly, both in dates of transition and the character of the work, with our own, a result doubtless brought about by the migratory bands of architects and artificers who travelled throughout Europe; and it is in the Early

French, Fig. 374, and Early Italian, as in the Early English, that we look for the best examples of decorative treatment of foliate and floral forms. Figs. 388, 389, 419, and 420 are examples of Continental Gothic. Amongst the nations of antiquity, the art of the Egyptians is pre-eminently adapted to serve as a model to ourselves, the forms being diagrammatic, suggestions of the natural and beautiful growth of the living plant, admirably adapted to the requirements of ornament; no fictitious effects of relief nor simulated shadows, no attempts at foreshortening, no violations of the natural laws of plant-growth, or of the characteristics of the natural animal form. Egyptian art, too, is worthy of note in another direction. It deals exclusively with the animals or plants of the land; thus in the former class we see the ibis, vulture, beetle, and many others; in the latter, the lotus, papyrus, and date-palm; unlike the modern English principle of manufacturing the ornamentation of capitals and string-courses, ad nauseam, with a plant of southern Europe, the acanthus, a plant unknown in England—a plant that the Greeks introduced into their work, too rigidly to the exclusion of other equally beautiful forms, but with a delicate sense of its beauty; a plant that the Romans, in clumsy imitation, equally readily adopted, and that, therefore, from its classic associations, has obtained firm foothold amongst us with all those who look not to the living spirit of Greek or other art, but to the mere letter; those who can copy being always a larger body than those who can create. Doubtless, as the Englishspeaking races spread themselves over the globe, they will be found meeting in senatehouses and other public edifices duly furnished with pediments and Corinthian columns, and thus the acanthus, cradled in the Mediterranean, will be scarcely less familiar to the denizens of Quebec, Calcutta, Yokohama, or the rising cities of the great Southern land. On Greek vases a very considerable variety of forms may be met with, some of the ornamental bands being closely copied from the vine, laurel, olive, or ivy. Numerous examples of these may be seen in any extensive collection of Grecian antiquities. Our own national museum affords abundant illustrations. Figs. 283, 330, 394, 396, 413, and 417 are examples.

Of Assyrian ornament we have but scant knowledge, as but little decorative work appears on the Ninevite and other remains. Plants are frequently represented in the sculptures, but in these cases they are always pictorial elements, accessories of a picturesque character, not in any way decorative in intention. These representations, therefore, do not fall within the scope of our present purpose. Passing on to the Romanesque and Byzantine art periods that arose at the decay of the old classic nations, we naturally find them using much of the old material by which the artists and designers were surrounded; and though for some time after the extension of the Christian faith the old heathen forms were from bygone associations under a ban, yet, as this feeling died away, the old forms were again freely used, though, owing to the introduction of an eastern influence, not exactly resembling the classic types. Hence, while in Venice and elsewhere we find the acanthus freely employed, we are conscious that it is in some respects scarcely the more familiar form adopted by the Greeks, the veins being deeply incised, and the general effect of the outline much more angular; the classic form being more flowing and graceful, the Romanesque and Byzantine treatments ruder in treatment frequently, but with a healthy vigour that appears fully to compensate for the change. The art of this period being, as we have seen, almost entirely symbolic in its character, a great use is made of such animal and vegetable forms as have a symbolic and inner meaning; hence the lion, serpent, dove, eagle, vine, lily, and many other forms of this nature are very freely introduced, always, however, with a due regard to architectural and decorative requirements. St. Sophia at Constantinople, and St. Mark's, Venice, are two excellent typical examples of this symbolic Christian art. We need scarcely remind our readers that Constantinople was not captured by the Turks until A.D. 1453, and though St. Sophia is now a mosque, it was for centuries a Christian cathedral. The reverse of this, and an equally interesting example of the mutations wrought by time, may be seen at Cordova, the cathedral having been built by the Moors, and only on their expulsion, and the final triumph of the cross over the crescent, used as a Christian church.

Mohammedan art, whether Saracenic, Moorish, Persian, Arab, or Indian, differs from all other in this, that whereas in all other periods æsthetic considerations entered largely into the question of a greater or less naturalism of treatment, such treatment was, by the precepts of the Koran, strictly forbidden. It was not allowable to represent the likeness of any living thing, animal, or vegetable. The stringency of this command of the prophet led to a very individual and marked style of treatment, though the curves and details almost unavoidably partook of a foliate character, as we may see in our Fig. 393, a fragment from the Alhambra, where the forms, though strictly conventional, have a suggestion of nature in them, and recall the pleasure we have felt as we have wandered through the forest in spring time, and from amidst the hyacinths and anemones seen the young heads of fern unrolling themselves. The Indian examples, Figs. 280, 316, 331, are still more conspicuously indebted to nature, though in themselves rigidly conventional in effect. Fig. 406, a piece of Tunisian embroidery, is another good example. The Persians and the Moors of Spain, less orthodox than other Mohammedans, do not so stringently observe the requirements of the Koran in this as in many other respects; hence on Persian pottery, for instance, the student will find very naturalistic representations of plants, as the pink, Fig. 402, rose, borage, and hyacinth; while in the Alhambra, one of the inner courts, the Court of Lions, derives its name from a fountain in the centre, the basin being supported by a ring of lions, not of a very natural character certainly, but still sufficiently so to bring them within the religious prohibition, while the inscription round the fountain betrays the fact that it was want of power, not want of will, or the restraint imposed by Mohammedan precepts, that prevented their being more life-like than they really are, as the portion of the inscription relating to them runs as follows: -- "Truly, what else is this fountain but a beneficent cloud pouring out its abundant supplies over the lions beneath? Like the hands of the Caliph, when he rises betimes to distribute amongst his soldiers—the lions of war—their bounteous reward. Oh, thou who beholdest here these crouching lions, fear not, for life is lacking to enable them to show their fury!" A sufficiently needless caution, as all will agree who have seen the originals in the Casa Real, or the cast of them at Sydenham.

Amongst the Chinese and Japanese we meet with extreme examples both of naturalism and conventionalism, the forms being sometimes clearly derived from nature, while at others they are grotesquely unreal. In the former class the chrysanthemum and bamboo, Fig. 407, are especially common; in treatment very frequently represented as detached and unsymmetrical sprays, powdered, as in Fig. 377, at irregular intervals over the ground.

We turn now for awhile to the consideration of the question as reflected in the writings of others. Ruskin, in dealing with the question, says in one passage that "all noble ornamentation is the expression of man's delight in God's work;" we are therefore quite prepared to find in another of his works the following:—"I called, with deliberate measurement of my expression, long ago, the decoration of the Alhambra detestable; not merely because indicative of base conditions of moral being, but because merely as decorative

work, however captivating in some respects, it is wholly wanting in the real, deep, and intense qualities of ornamental work." It appears to us that the following remarks by the same writer exactly express the requirements of the case:—" Ornamentation should be natural, that is to say, should, in some degree, express or adopt the beauty of natural objects; it does not hence follow that it should be an exact imitation of or endeavour to supersede God's work. It may consist only in a partial adoption and compliance with the usual forms of natural things, without at all going to the point of imitation; and it is possible that the point of imitation may be closely reached by ornaments, which nevertheless are entirely unfit for their place, and are the signs only of a degraded ambition and an ignorant dexterity. Bad decorators err as easily on the side of imitating nature as of forgetting her, and the question of the exact degree in which imitation should be attempted under given circumstances is one of the most subtle and difficult in the whole range of criticism." There may be conventionalism of colour; conventionalism by cause of inferiority, where a subordinate part requires subordinate treatment; conventionalism on account of imperfect means, or the restraints of production, as in stencilling, weaving, or braid-work, where, as in Figs. 131, 141, the ornament must run in continuous lines, so as to prevent the necessity of frequently cutting the braid, and many other such-like processes where the tools or the materials at the designer's command will not permit much freedom; conventionalism as a religious requirement; or finally, the conventionalism of free choice. Wornum thus defines the difference between naturalism and conventionalism:—"A natural treatment implies natural imitation and arrangement, but an ornamental treatment does not necessarily exclude imitation in the parts; as, for instance, a scroll may be composed of strictly natural parts, but as no plant would grow in an exactly spiral direction, the scroll form constitutes the ornamental or conventional arrangement (as in Fig. 378). We may, however, have conventionalism of details as well as conventionalism of arrangement. There can be no question," he goes on to say, "that the motive of ornament is not the presentation of natural images to the mind, but the rendering the object ornamented as agreeable as possible to it, and therefore the details of decoration should have no independent character of their own, but he kept purely subservient to beauty of effect. This can hardly be done, or rather cannot be thoroughly done, but by the adoption of conventional ornament, whether flowers, foliage, or other natural forms; because, as a conventional or merely geometrical form can really have no individual associations, and yet at the same time may present an extremely beautiful effect, the whole of that effect is simply auxiliary to the general effect of the object decorated; the ornamentation is purely accessory." Again in another place he says: "You frustrate the very principle of nature, upon which you found your theory, when you represent a natural form in a natural manner, and yet apply it to uses with which in nature it has no affinity whatever." Hudson is equally explicit: "There is a great difference between the terms applied and adapted; they in fact express the wrong and the right use of vegetable forms. All natural forms require certain modifications to adapt them for other than their own natural situations, and it is the neglect of this, and the simple application of these forms without adapting them, which constitutes a false principle." Dresser says: "Mere imitation is not ornamentation, and is no more art in the higher sense of the term than writing is itself literature, for in order to the production of ornament there must at least be adaptation. Our so-called natural wall-papers will illustrate the first or most elementary step taken towards the production of ornament, for adaptation has here been considered so far as is absolutely necessary, in order that the design may repeat in the mechanical

manner necessary to its production, and no further. If mere imitation is ornamentation, then the ornamentist must at once give place to the photographer, who by his art repeats natural objects with far more accuracy than the most careful draughtsman; but photography cannot invent, as it is devoid of the mental or imaginative faculty, for the working of the mind is essential to the production of decoration. Vegetable nature, treated conventionally, will not be found to be far removed from truth, but will be merely a natural form, or a series of natural forms, neither marred by blights nor disturbed by winds, adapted to the fulfilment of a special purpose, and suited to a particular position; for the most perfect examples of what is usually termed conventionalised nature are those which express the intention of nature, if we may thus speak, or are manifestations of natural objects as undisturbed by surrounding influences and unmarred by casualties." Sir Gardiner Wilkinson says: "The imitation of natural objects for mere ornamental purposes usually disagrees both with the materials used and the place where they are introduced; it is also an indication of poverty of invention and a deficiency of taste for design. To obtain ideas for ornamental art, nature should be carefully studied, and the beauties she presents should be fully understood, but she should not be directly copied in any unsuitable material; however good the copy, it has the fault of being an imperfect representation of what it vainly attempts to imitate, while it should have been satisfied with its proper and humbler office of merely ornamenting." Owen Jones is, in his "Grammar of Ornament," equally clear on the point: "Flowers or other natural objects should not be used in ornament, but conventional representations of them, sufficiently suggestive to convey the intended image to the mind without destroying the unity of the subject they are employed to decorate." And in another passage he thus repeats the idea: "In all the best periods of art, all ornament was rather based upon an observation of the principles which regulate the arrangements of form in nature, than on any attempt to imitate the absolute form of those works; whenever this limit was exceeded in any art, it was one of the strongest symptoms of decline, true art consisting in idealising, and not copying, the forms of nature. Sir Joshua Reynolds, in his "Discourses on Painting," is equally explicit. He says that "amongst the painters and the writers on painting, there is one maxim universally and continually inculcated: 'Imitate nature' is the invariable rule; but I have known none who have explained in what manner this rule is to be understood: the consequence of which is, that every one takes it in the most obvious sense, that objects are represented naturally when they have such relief that they seem real. It may appear strange, perhaps, to hear this sense of the rule disputed; but it must be considered that, if the excellence of a painter consisted only in this kind of imitation, painting must lose its rank, and be no longer considered as a liberal art, and sister to poetry, this imitation being merely mechanical, in which the slowest intellect is always sure to succeed best; for the painter of genius cannot stoop to drudgery in which the understanding has no part; and what pretence has the art to claim kindred with poetry, but its powers over the imagination? To this power the painter of genius directs his aim; in this sense he studies nature, and often arrives at his end, even by being unnatural in the confined sense of the world. The grand style of painting requires this minute attention to be carefully avoided, and must be kept as separate from it as the style of poetry from that of history. Poetical ornaments destroy that air of truth and plainness which ought to characterise history; but the very being of poetry consists in departing from this plain narrative, and adopting every ornament that will warm the imagination."

If safety be found in the multitude of counsellors, our readers will, we trust, not think

our preceding quotations superfluous or monotonous, since even the very repetition of the same principle by writer after writer will tend the more to impress the recurring truth on the mind of the reader. In modern decorative art we find a great use of naturalism; into this we shall, however, go at greater length when we deal with the principle of fitness in design. Renaissance art, often very beautiful, both in general effect and in its details, is characterised as a whole by a great use of natural forms, though these are ordinarily conventional in their arrangement, and at other times unnaturally combined, as in Fig. 386, where a stem surmounted by a poppy capsule has lateral leaves of the oak, an arrangement that can scarcely be considered justifiable. The great use of grotesque animal forms in combination with plant forms is another very characteristic feature; the tail of a griffin, as in Fig. 391, often terminating in elaborately foliated spirals, or at other times, as in Fig. 405, these may spring from a human head, and supply the place of the more usual hirsute appendages. The consideration of the various styles or periods of the Revival would require far more space than we here feel justified in devoting to it, but many excellent works are open to the student; many excellent examples well worthy of study may be seen in the South Kensington Museum, in some respects supplying illustrations of what should be avoided, but containing very much, too, that is well worthy of the consideration of our designers.

We now proceed to point out such other illustrations on our plates that bear on the subject as we have not yet had occasion to refer to, making any comments on them that the peculiaraties of the treatment appear to call for and justify. Fig. 74, a stained glass example, though sufficiently naturalistic in the form of its foliage to enable us to pronounce it based on the maple, is, in its general arrangement, decidedly conventional. Fig. 95, Chinese in its origin, is naturalistic. Many of the earthenware vessels of the Chinese are of this character, being not merely suggested by some natural form but a fac-simile of it; thus a gourd, for instance, will form the body of a teapot, while over it a spray of the plant wanders, and being in one place raised from the general level, becomes the handle. We remember, in the International Exhibition of 1862, to have noticed a very similar idea in many of the Javanese exhibits, these being, in several instances, direct imitations of the fruits of the country. Fig. 248, an Indian example, is, like almost all Indian art, thoroughly conventional in character, in colour, in form, and in arrangement. Figs. 266, 270, 272, are good idealised suggestions of the general principles of floral form, the central convex boss, and the radiating, equal, and more or less concave members surrounding it, though it would be impossible to assign any particular natural flower to any of them as the type. Figs. 278, 279, 281, are all rigidly conventional. Fig. 320, a Gothic floral form of cruciform character, is very pleasing, containing a pleasant suggestion of nature, while it yet thoroughly satisfies the eye as an ornament, and the same may be said of the mediæval diaper, Fig. 326. Fig. 324, 325, designs of our own to fill the little vacant space on the plate, appear to us fair examples of what we believe to be correct treatment, since in them the natural beauty of the ivy and mallow foliage respectively has been studied, while the natural character has been kept in subordination to the special decorative use. Fig. 328, on the same plate, appears to be a conventionalised cactus; the original is from an old Mexican MS. Figs. 334, 336, 340, 342, are all very arbitrary in character. Fig. 355, a piece of English embroidery, is a very free rendering of the violet, the actual natural forms of the leaf and flower being shown in Figs. 356, 357. Fig. 358 is probably based on the similar radiate form that is seen crowning the capsule of the poppy.

It forms a very good and rich decoration. Fig. 359 is a piece of Early French Gothic, a very quaint treatment of the blackberry. Fig. 361, also Early French, appears at first sight to be suggested by the fig-leaf, but the sheathing of the main stem by the petiole of the leaf is not a character of growth in that plant, such a form being more especially characteristic of the umbel-bearing plants. Fig. 363 is given as an instance of the conventionality that often results from a special method of work, the swollen masses on the leaves being an especial feature in much of the metal-work, both of the past and of the present day; since the effect is very easily produced by the workman, and is very effective when done, as the polished surface of the metal is rendered much more beautiful and telling by the strong lights and shades thus produced than if the whole design were in one plane. In much of the later and poorer Decorated stone-carving this idea is carried to excess. Fig. 375 is an example from work of that date. Possibly the forms of one or two of our commoner sea-weeds may have originally suggested this globose swelling in the midst of the leaves; they are, at least, very similar in character. In Figs. 364, 367, we have treatments of the common hedge nut, the natural growth, for comparison, being given at Fig. 368. Figs. 379, 380, 381, 382, 383, 390, though dimly suggestive of natural forms and laws of growth, are all rigidly arbitrary. Fig. 385, one of several heraldic devices from some Swiss glass, A.D. 1660, in the South Kensington Museum, is clearly suggested by the bulrush. Fig. 395, an Early English tile in the collection of the British Museum, is exceedingly interesting, as it represents the Talbot, an old English hunting-dog now extinct. The holly behind it is effectively treated, the spiny character of the leaves being very suggestively indicated. Fig. 429, the design made up of interlacing boughs, is of a character often seen in the later German work, many of the designs, really geometric in character, being rendered by these gnarled and knotted arboreal forms. Fig. 431, a rich piece of Tunisian embroidery, is, like other Mohammedan work, conventional from religious obligation. It is a very fine and suggestive example, and well worthy of attentive study.

Having entered at some little length into the question of naturalism and conventionalism in ornamental art, and having, as we would fain hope, led the student into the right path, and furnished him with reasons and examples for his guidance, we found that these remarks of ours naturally led to the consideration of the principle of fitness as one of the guiding principles of the designer, and by no means one of the least important, since it opens out the whole question of the relation of art to daily use. Were it more studied, we should find the benefit in even the commonest things. At present the housewife buys a great tub-like jug without the slightest pretensions to beauty, in lieu of those that have certain claims to ornament; since, putting aside the question of enhanced price, the one is a thing at least of utility, while the other, if beautiful at all, has frequently in the attainment of it sacrificed all consideration of use. The first, with its broad base and swelling neck, will stand where it is put, and can always be kept clean and serviceable; the other, with its flowing curves, graceful foot, and narrow neck, appears ready at any slight jarring to lose its balance; while its constricted opening effectually prevents the hand entering the vessel: hence it is beautiful in exterior and unclean within.

To be a designer, it cannot be too clearly understood, is to occupy a position higher than we associate with the word decorator, though the two terms are often used as if synonymous. Decoration is the clothing with beautiful form or colour of some object we desire thus to adorn, while design refers to the construction of any work both for use and beauty. The true designer will, therefore, consider the utility in the first place, and having

realised the limitations thus imposed upon his fancy, will embody his idea as gracefully as these limitations will permit. Our readers will gather from our previous remarks in discussing the amount of naturalism permissible in a design, that direct transcripts of natural forms form a marked instance of a violation of the law of fitness. One of the most selling things for a long time, though it has now given place to some extent to other extravagances of fancy, was a fac-simile of a horseshoe; a horseshoe for an inkstand, surrounding the glass bottle for the ink; a horseshoe of gold, and duly furnished with turquoise nail-heads, as a locket or a breast-pin; a horseshoe as a muslin pattern; in fact, for everything and everywhere, since, as it was everywhere alike meaningless and absurd, it could be used with the greatest freedom, no article or fabric being less appropriate for its display than another. This is a good though lamentable instance of that morbid craving for something startling that all must have known who have had anything to do with manufacturers. The question very naturally is, what will sell? The designer finds that racking his brains for such ideas is far more profitable than the thinking out of graceful forms, since the manufacturer does not care to invest largely in what he fears may be unsaleable, while the public, in turn, defends its purchases as being really the only things procurable. This state of things must of necessity remain until a more general appreciation of correct taste has spread amongst us, that is to say, until the majority, who will always be catered for because they are the majority, demand good taste. At present, those who would desire to surround themselves with graceful forms and objects correct in design and feeling, are in a minority, and consequently meet with considerable difficulty in gratifying their wish. Some little time ago we were asked our opinion by a lady of a purchase. We could only truthfully say that it was quite wanting in taste and fitness for its use, when the matter was at once clenched by the statement that it was quite the fashion. So long as this is the best argument, there can be no good art. Sometimes things may be better than at others, but as all alike rest on caprice, so the good will in itself be no better, nor the bad worse, in the eyes of the purchaser. Wall-papers will still show us endless perspectives of Chinese pagodas, and racehorses at full speed on the tops of pins will continue to be stuck into shirt-fronts, printed over with terriers' heads; or the terrier himself, fac-similed in earthenware, may have his head lifted off, in order that the proud possessor of the brilliant idea may get at the internal store of tobacco. Another great difficulty arises from the constant demand for novelties, since a man can hardly with much spirit throw his heart into the creation of things that, no matter how beautiful, will so shortly be under the heavy ban of being old-fashioned; and fashion here again holds sway, as it is far less culpable to have six dresses in a season, all equally outrageous in taste, than to keep to one or two that happen to be becoming. It is only just to say that within the last few years rapid strides have been made in many directions, and while much is still capable of improvement, we can look back on the past and feel that the teachings of the various International Exhibitions have borne valuable fruit; a result that has also undoubtedly been still more furthered by the excellent schools of art that are now established in all our great towns. The following extract from Redgrave's "Report on Design," as illustrated by the articles shown by British exhibitors in the first great gathering, that of 1851, will show that while much remains yet to be done, still solid progress has been made: -- "Stems, bearing flowers for various uses, arise from groups of metal leaves, standing tip-toe on their points, and every constructive truth and just adaptation to use is disregarded for a senseless imitative naturalism. In the same way, and doubtless supported by great authority past and present, enormous wreaths of flowers, fish, game,

fruit, &c., imitated à merveille, dangle round sideboards, beds, and picture-frames. Glass is tortured out of its true quality to make it into the cup of a lily or an anemone; not that we may be supposed to drink nectar from the flower, but that novelty may catch those for whom good taste is not piquant enough, and chaste forms not sufficiently showy. In fabrics where flatness would seem most essential, this imitative treatment is often carried to the greatest excess, and carpets are ornamented with water-lilies floating on their natural bed, with fruits and flowers poured forth in overwhelming abundance in all the glory of their shades and hues; or we may be startled by a lion at our hearth, or a leopard on our rug, his spotted coat imitated even to its relief as well as to its colour, while palm-trees and landscapes are used as the ornaments of muslin curtains."

The theory of the disciples of the naturalistic school appears to be that, as natural forms are in themselves beautiful, they cannot but be pleasing when reproduced in art. That this is a fallacy, however, our readers will, we trust, see, if they consider that in nature the animal or plant is fulfilling its proper functions, while in its reproduction in art work altogether foreign to its associations is required of it; hence, however graceful the head and antiers of a stag may be when seen beneath the spreading beeches or amidst the bracken, it is a grave error of judgment to decapitate the animal and place its head between the bottles on an inkstand, using its spreading antiers as convenient pen-rests. However beautiful the chalice of the lily may be in nature, it is but degraded when from its counterfeit presentment a gas jet is made to issue. All ornament is but accessory; it adorns utility, and should not itself be the principal feature in the work; hence it is wrong, in place of a gas-jet with its appropriate ornaments, to substitute one of nature's loveliest flowers, the very type of purity, that in place of its delicate odour, and all the charming associations of its life, it may breathe out fire and smoke. The eternal fitness of things is disregarded, and the result to all thinking minds is not unpleasant merely, but absolutely repulsive.

Fig. 422, an ancient Egyptian drinking-cup, based on the favourite lotus flower, is perhaps as near an approach to the natural floral form as the designer is justified in attempting. The original may be seen in the British Museum; it is about five inches high, of a dark blue green, the lines that define the forms being black and somewhat coarse in execution. We need not devote any of our illustrations to modern examples of want of fitness, as a little observation on the part of our readers will, we fear, soon enable them to detect examples for themselves. The Murano glass is a good instance of perverted taste in the manufacture, as the forms it assumes are often such that the vessels could have been of little or no practical use, and though on many accounts interesting, yet, since they fail in the most important feature, we must perforce consider them artistically as examples of a perverted ingenuity.

Fitness is not only to be studied in a consideration and just conception of the use of the required object, but also as to how far the adaptability of the material at command will influence the form, since some materials may be woven, others cast, blown, hammered, or modelled as they revolve, while plastic, on a wheel. It is an error of judgment painfully to imitate in some antagonistic material the effect that might very naturally be produced in some more pliable medium. All sense of fitness is set at nought when forms are worked out in one material that belong properly to another; as, for instance, an elaborate attempt, faulty at best, but apparently very popular, to imitate basket-work in earthenware. We have seen a butter-dish made exactly like a straw hat, the plaiting of the straw, the band of blue ribbon, being horribly real—the junction of the dish and lid being concealed by

the ribbon. These things err in good taste and common sense no less than in the painful imitation of processes of weaving and plaiting in an inappropriate material, since no one would really have the milk brought up to table in wicker-work, nor the butter put under a hat; hence the more realistic the effect the more objectionable every way the result. The square stitches of wool-work, and their imitation in wall-papers and printed stuffs, are a parallel case; in the former the manipulation requires them, but to place the design in the latter cases under such a limitation of effect, thus imitating a process far less elastic than the case would permit, is a grievous error of judgment. We may see the same degradation of the material in the fictitious examples of mosaic, where the work produced in one piece is afterwards marked over with lines to represent the junctions of tessera. The design should have immediate reference to the material in which it is to be produced, that thus the capabilities of that material may be considered, and the maximum of good result obtained. Not only should iron and earthenware, for instance, have their special adaptabilities considered, but the design that would be suitable for cast-iron must differ from that intended to be worked in wrought-iron; while oak and mahogany have each special characteristics of grain and surface that would make the character of design that worked out well in one not so good for the other.

The fitness of ornament to its scale and position must also be considered, fine and delicate work and colouring being best seen when near the eye, and a larger and bolder class of forms being required when farther removed. Fitness of position, too, must be considered in what we may be allowed to call its moral sense, as the same ornaments could scarcely be used for a cathedral and a music-hall. A running band of hops and barley, that we remember to have seen carved round the door of a tavern, had more of this quality of fitness in it there than it could have had in any other position. Fitness is considered when, in a fabric of a delicate nature, the ornament also is delicate; hence plants like the crane's-bill, Geranium Robertianum, the hare-bell, Campanula rotundifolia, and many species of ferns are especially suitable for muslins and such-like fabrics. Plants grouped together in a design should be of one season with each other; the only exception to this rule would be in the design for a calendar border, wherein all the seasons of the year might furnish their contributions, as the inner meaning would give a unity to the whole, and render it not justifiable merely, but especially appropriate.

Nature has ever been the great storehouse filled with boundless wealth of suggestions for the designer's service, and we see, as we proceed, that all the great principles of ornamental art finds their counterpart in her works. If we seek for justifications of the use of symmetry, we find them amply in the crystals of the falling snow, the rays of the sea-anemone, the painted wings of the butterfly, as shown in Fig. 415, the corolla of the flower, the varied forms of the leaf. Repetition is seen in the whorl of leaves that surrounds the stem of the goose-grass, or the ring of petals in the primrose, anemone, or buttercup. Variation is no less clearly illustrated in the gradual transition of form in the leaves of many plants, the lower ones, as in the columbine, being full and rich in character, the upper small and simple in form; while in other plants the reverse is seen, the first leaves being simple in character, thence gradually merging into others deeply cut and full of beautiful suggestiveness of form. Contrast is seen no less distinctly both in form and colour. We see it in the smooth round scarlet berries and glossy green leaves of the holly, in the yellow and purple of the pansy flower; while not further to multiply such examples, we may, in conclusion, point out that the principle of fitness is equally well illustrated in natural

FITNESS.

examples. Fitness is the perfect adaptation of the form to the circumstances of the plant's existence: thus the slender pea, too delicate to support itself unaided, is furnished with numerous tendrils, by means of which it climbs and rears its head amongst its sturdier neighbours; while the field-bean, an allied plant, being strong enough to sustain itself without any such adventitious aid, is without these appendages. The ivy climbing a wall is furnished with little root-like members, which, inserted in the crevices of the face of the stone-work, amply suffice to support it. While it is yet trailing on the ground, or when it has reached the summit of the wall, the rootlets being unnecessary, are not developed. The dodder, a slender parasitic plant, supports itself by suckers. We see the same principle again in the growth of the pine-tree, which, from the bleak localities, the bare mountain sides on which it flourishes, requires special modification of the more ordinary characteristics of tree-growth. This is seen in the tall, slender stem, the absence of any heavy lateral ramification. The leaves are thin and needle-shaped, thus offering individually and in the aggregate but little resistance to the force of the gale; while the roots, instead of striking far down, like those of most trees do in softer ground, stretch horizontally for a considerable distance just below the surface, making up by their large area for their comparatively slight hold of the rocky soil. In the case, too, of the water-buttercup -Ranunculus aquatilis-a common plant in most country streams, the upper leaves float on the water; these, therefore, are flat, and but slightly cut up into lobes, while the leaves that are submerged are cut into very fine, thread-like strips, thus offering no resistance to the water, their length merely turning in the direction of the current, no large surface, as in the case of the floating leaves, being offered to the action of the stream, as if so, the leaves would, by their constant resistance, tend to loosen the plant, and would themselves speedily be torn to shreds. We see the same characteristic filiform growth in the sea-weeds that, exposed to the dashing and turmoil of the waves, have an equal need of special modification of growth. In Fig. 411 the algals—known botanically as the (a) Sphacelaria plumosa, (b) Chondrus crispus, and (c) the Sargassum bacciferum—are fair illustrations of this, though many other species are still more thread like. The stems and leaves of water-plants being either flattened in the direction of the stream, or else triangular in section (see Figs. 414, 416), furnish us with another illustration, both forms offering but slight resistance to the action of the water. This grand law of fitness not only holds sway in the vegetable kingdom, but is equally discernible throughout the whole extent of nature; thus the tiger's striped and brilliant-looking coat is really very similar in effect to the tall grass in which he lurks, and only really becomes conspicuous when isolated from the natural circumstances of the animal's life. In the case of the penguin and apteryx, birds incapable of flight, all the bones of the skeleton are solid. In proportion as other birds enjoy the power of flying, so their bones vary in this respect, until, in the skeletons of the hummingbirds and our English swift, birds almost constantly on the wing, every bone, down to the last joints of the toe, is hollow and permeated by air. Throughout the whole realm of nature the external form and the internal structure will alike be found to possess this great principle, for which we equally contend in all artistic work worthy of the name—fitness to the requirements of each particular case.

Another valuable feature in ornamental art will be found in the due use of the principle of contrast. Contrast may make itself felt in many ways; we may, for instance, have contrast of texture and surface, a feature that may often be seen in Perpendicular carving, where the foliage, so twisted spirally as to show alternately its upper and lower

surfaces, has these still more emphasised by the one being tooled over, or drilled, with an exaggerated effect of the pores, while the other is left plain. There may be contrast of general form, a principle very fully carried out in classic and mediæval mouldings, where rectilinear and curvilinear forms each gain by juxtaposition, and where, too, we may frequently find a richly-carved moulding the richer in effect from being placed amongst simple mouldings and lines. There may be contrast of colour, as in a pavement of black and white marble, or the squares of a chessboard. A still richer effect is produced when both forms and colours are varied. This is a very valuable principle in designing, as it gives a greatly increased charm to any ornamentation. The first idea of a beginner desirous of richly decorating any surface—we will say, for instance, the side of a room is to cover it all over with brilliant ornament, unlimited crimson and gold; but he soon finds that that will not do, but that by enriching some surfaces and keeping others back, by the use of strong colour in some parts and delicate or subdued colours in others, in the use of bold and decided forms in one place, of delicate curves in another-in fact, in the use of that principle of contrast and due subordination that we are now advocating, he has got a far richer effect than before.

Hogarth, in his "Analysis of Beauty," writes as follows: -- "When the eye is glutted with succession of variety it finds relief in a certain degree of sameness, and even plain surface becomes agreeable; and properly introduced and contrasted with variety, adds to it more variety." While Sir Gardiner Wilkinson says, "A whole wall, ceiling, or open space should not be entirely covered over with rich ornament; and so also in a coloured piece of drapery, or any ornamental work, it is better to leave some parts of it much less rich and of less complicated pattern than the rest. It is apt to fatigue the eye when overloaded with equal richness of detail throughout. This is still more important in a coloured building, where, if the whole walls, columns, and other parts are covered with elaborate and coloured patterns, the eye feels a want of repose; and the same when a building is covered entirely with sculptured ornament; the richly-carved part not only requires an unsculptured portion in order that it shall not fatigue the eye, but is improved and set off by the contrast. Contrast is as necessary for effect in form, quantity of detail, and the position of lines, as it is in colour." The cornice of the Corinthian order is a good example of the matter in hand, plain mouldings and dentals being combined with the forms of the egg and tongue, and other enriched mouldings and lines of ornament. Many of the most famous temples of India positively lose in effect by the excessive richness of the ornamentation; the eye seeks in vain to relieve itself by dwelling amidst the redundancy of carving upon some plainer portion, as all alike is covered with decorative details, and the designers have thus defeated their own object. The same objection, in a less degree, makes itself felt in Moorish work; in a less degree because, though the mural diapers themselves, when examined, frequently exhibit this excess of richness, and cause us to feel a want of repose, the effect, as a whole, is not so decided, as running round each room we have a mosaic dado of a much simpler design, and thus obtain the needful variety and subordination.

The value of contrast has been appreciated at all periods of art; amongst the Egyptians, for example, we see it exemplified in the placing together of the slender and aspiring obelisk and the massive temple, with its long horizontal sky-line; while in the Assyrian remains we see it most clearly developed. Our 239, 241, 242, and 244th figures are good illustrations of this. They are all derived from flooring-bricks in the British Museum, the colours employed

CONTRAST. 121

being buff or green as a ground-work, with the forms sharply defined upon the ground in black and white. The Greeks were equally alive to its value, as we may see on observing the numerous anthemion forms met with on their pottery, almost all being based on the alternation of two dissimilar forms. We have in Figs. 108 and 398 two other examples from the same source, one a simple chequer of sharply contrasting colours, red and black, the other a patera, or floral device. Contrast of form alone, and its value, may be readily seen in Fig. 421, a capital from the Temple of the Winds. Fig. 409, a Norman example; Fig. 326, from a sculptured effigy of Gothic work; and Fig. 418, a piece of modern interlacing, are three good examples of contrast of form; in the first the rectilinear and curvilinear lines, the flat surface, and the raised; in the second, the central form, composed entirely of curved lines in its enclosure of straight lines; and in the third, the combination of straight lines, horizontal and oblique, with others strongly curved, being all contrasting features of distinct decorative value. The forms of nature, when studied and duly conventionalised, will supply much valuable material: as, for example, the white water-lily, with its central globular mass of petals, surrounded by its large and simple leaves; the hawthorn, when in flower or fruit; the fruit and foliage of maple or of oak. Fig. 412 presents us with a bold and good example (Norman) of valuable contrast of form, produced by freely conventionalised fruit and leaf forms. In Figs. 17, 22, 25, the forms composing the pattern and the ground are identical. In these cases the only way to develop the design is by variation of colour; while in Fig. 316 the principle of contrast is employed both in form and colour, the richest development of the principle. Fig 408 is sketched from a bowl of Deruta ware, of the sixteenth century, in the South Kensington Museum Collection of Ceramic Art; while Fig. 300 is from a piece of Indian embroidery, a particularly pleasing example, as the alternate foliate and floral forms, raised in silver from a ground of crimson, have a very rich and beautiful effect.

We need not now stay to point out any further examples of these principles in our plates, as the reader will, we trust, find enhanced interest and profit in searching for them himself. We need scarcely say that many of our illustrations serve to exemplify much more than the one point with which, in our comments upon them, they may have been so far identified; thus Fig. 316, recently referred to as a good example of (a) contrast, is an equally good illustration of (b) the use of conventional foliate forms, (c) the principle of alternation in form and colour, and (d) of a running and repeating pattern. The analysis of a given form in this way, the endeavour to understand the various principles involved in its construction, will be found to be a study at once entertaining and beneficial.

While many of the leading principles of decorative art are of almost universal application—symmetry, for instance, being observed in the ornamental work of almost all periods, pervading the labours of those who are separated from ourselves, either by lapse of time or by thousands of miles of ocean, and in many ways under the influence of conditions the opposite of those that affect ourselves—there are others that are not of such general application, or not so readily detected when met with: thus, though many influences are at work and greatly modify our power of expressing any generalisation, we can yet say that simplicity is a principle in the art work of some periods, complexity a ruling feature in the designs of other periods; though, in most styles, examples of each treatment are freely met with, and the recurrence of one or the other is to be in these cases regarded as the result of external influences, rather than the exercise of a principle. Simplicity, as a rule, is to be met with in the beginning of a style, while men were yet feeling their

way, painfully and laboriously striving after an ideal; hence ornament is a growth, a development that in most cases can be easily traced. A style of ornament does not spring Minerva-like into existence. The middle period of each style is generally the finest. In its earlier history its course is often erratic, the forms rude, the conceptions barbarous; time, however, brings a change in all these respects, and for some few years the refined ideal of the artist seems almost, if not quite, reached. A period, however, shortly, and too soon arrives, when men, proud of past success, degrade their art by making it the medium for a display of their own exceeding cleverness; art beauty for its own sake, or its teachings' sake, is no longer the high consideration, the lofty aim, and the style that under purer aims slowly grew, arrived at length at a time when manual dexterity enables the designer clearly to express his meaning, is approaching the most perilous period in its history, since this very dexterity speedily becomes its pride and weakness, and the art, once so expressive and refined, loses its hold of men's regard, and expires, choked by the wanton excess of ornament and fatal complexity and redundancy everywhere manifesting themselves. Complexity is, however, not of necessity a sign of decay, though it frequently accompanies it, as at one and the same time both principles, simplicity and complexity, may be found. Much depends upon the nature and position of the thing ornamented; obviously an ornament on the level of the eye may be more complex than one that will always be seen from a distance. In the one case every detail tells and has its value; in the other these details would not merely represent wasted work and ill-directed ingenuity, but they would be positively hurtful, as by their presence they would, while in no way enhancing the beauty of the work, destroy that breadth of effect that in a decorative work intended for distant inspection is so charming and in fact essential. The materials at command must also largely influence the work, some being susceptible of high finish and elaboration of effect, while others necessitate bold and simple work. The outlay that may be indulged in, the cost in time, the labour available, will be other matters for consideration, matters that must strongly bias the mind in the choice of treatment. Where arrangements permit of it, the introduction of both features, simplicity and complexity, will, as we have already indicated on a preceding page in our remarks on contrast, be a mutual benefit, each deriving increased beauty from the presence of the other. There is, moreover, frequently a moral fitness to be observed; some parts of a building, for instance, are of higher use than others, and it is only seemly that on these more honourable parts greater richness of decoration and more lavish exercise of thought and ingenuity should make itself felt. The hinge of a stye-door may very fitly be less complex in design than that that attracts the eye at the portals of the baronial hall. This our readers may say is an extreme case, but it may on that account more clearly convey our meaning; and the principle it involves, when once impressed on the mind, will assist the designer in coming to a right conclusion in cases less widely separated. This consideration of the fitness of the ornament to its place should run through all such work: thus, to give but one example out of many, a supporting pillar, be it Corinthian column or Gothic shaft, will ordinarily be found to be clearly divisible into three main features—a spreading base, a central shaft, a crowning capital. The base must not only be strong enough to support the superincumbent weight, but it must also convey that impression to the eye. This double requirement is best met by a bold simplicity of treatment. Moreover, good ornament would be wasted in such a position; it is too low to be conveniently seen, too exposed to chance injury for it to be desirable to expend much fine design on it. Ornament, if applied at all, should either be slightly sunk on the face of the work, or, if in relief, may very advantageously fill in the four corner forms resulting from the placing of a round on a square form. In Byzantine and Norman work this latter plan is very largely resorted to; it fills up very pleasingly what would else be a somewhat bare angle, and in doing so neither really nor apparently weakens structural requirements. Good examples may be seen in England at Romsey Abbey, or St. Paul's Cross, in Hampshire, or at Iffley Church, Oxfordshire. The shaft may be either simple or composed of an aggroupment of several members; strength, as in the base, should be its characteristic feature; hence, if of structural importance, it should be either plain or but slightly enriched. Simple lines and bands, not too deeply incised, form the best decoration; it cannot well be too simple in character. The pillars of the nave at Waltham Abbey, Lindisfarne Priory, Durham and Canterbury Cathedrals, all present examples of a simple zigzag; while at Shobdon Church, in Herefordshire, the whole surface of the pillars is entirely covered with rich carving, the general effect being, we think, by no means so good as that resulting from a simpler treatment. The same just and simple treatment, that we have already been upholding and illustrating by mediæval examples, is equally well seen in classic shafts, these being always either plain or covered with a series of vertical flutings. Enriched shafts seem to us most allowable in doorways, and other localities of a like character, where the appearance of massive strength is not so indispensable. Good examples may be seen at Ockendon Church, in Essex, one of the pillars having a beaded spiral line, another a spiral of dog-tooth moulding. Where a cluster of shafts is met with it is not unusual to find some of them enriched, and this appears to us a perfectly legitimate treatment. Shafts of a serpentine or helical form, though occasionally met with, cannot but be considered a mistake; they have so distinctly a weak and feeble appearance that, even if really strong enough to support the weight placed on them, they offend the sense of fitness, as it always appears as though, having shrunk thus far from the rigidity of line that we naturally look for, the process may be still further continued to the ruin of the superstructure. The capital, or crowning member, is generally of a bell or cushion form, and sufficiently large to afford support to the springing of the arch that ordinarily starts from it. This function being satisfactorily performed, a very considerable amount of enrichment is permissible. Such enrichment, however, should always conform to the structural form, and when it hides it, as in the Corinthian capital, we should be able clearly to feel that the practical requirements of the capital are not infringed on. Fig. 421 is a good illustration of this, as the eye and mind are satisfied that strength has not been forfeited to effect. The ideal is reached when the ornament develops and beautifies the structural form, hence an Early English capital is more beautiful than one of the Decorated period. In the first the main lines of the foliage are in harmony with the mass the foliage beautifies; while in the second the foliage is merely applied as a wreath, Fig. 392, and does not in any way assist or emphasise the constructive form beneath it. In some styles of art the construction is merely decorated by colour, very few relief mouldings being introduced, the various lines being brought out by bands of various tints. A certain use of this was made in mediæval work, and we see it very notably in Early Italian work, as, for example, at Assisi, much of it the work of Giotto, at Sienna, and at Florence. In a great deal of the most characteristic Romanesque and Byzantine work, the constructive forms are brought very prominently forward, the ornament being kept in a strictly subordinate place. A great many examples of this may be seen in Germany. The Doric

or Early Greek and the Early English Gothic are, perhaps, the best examples of the principle of simplicity (a very different thing to poverty of thought, we must remember); while the Moresque, with its elaborate interlacing, its delicate network of geometric tracery, its vivid colouring, scarlet, blue, gold, black, and profusion of ornament everywhere, is an excellent example of a style in which complexity is a dominant feature. A Doric temple is at once recognisable by its simple, massive proportions; its few ornaments, such as the triglyphs, were the memorials of real utility, representing in this case the ends of the beams in the earlier wood construction. The Romans, in adopting the order, made several modifications and to a great degree impaired its individuality. In the Greek work the columns were without pedestal or base, the end of the shaft resting directly on the paved floor. The capital was of a very simple character, a few plain fillets, a projecting ovolo moulding, very slight and delicate in its curvature, and surmounting all a plain abacus, without fillet or any other ornament. The columns, very massive in character, being sometimes only six diameters high, have considerable lightness of effect owing to the fluting. The fluting of the Greek Doric is peculiar, being composed of twenty shallow depressions, the junctions of the flutes being marked by a sharp line; whereas in the Ionic, Corinthian, and Composite orders, the flutes are twenty-four in number, and have small intervening fillets; the curves, too, are much rounder in character. Fluting may or may not be used in the preceding orders, but in the Tuscan order it is never in any case met with. The famous temples of Athens, that of Minerva, better known as the Parthenon, and that of Theseus, are fine examples of the Doric, and from their general beauty of composition and simple grace of detail are worthy of the most attentive regard. The Roman Doric is seen in the theatre of Marcellus, the only example of its use now extant. The Early English Gothic, though not so severe in treatment as the Greek order we have just referred to, affords us a very good example of like simplicity of treatment. We need not here dwell at any length upon it, as excellent examples of it are easily accessible, the cathedrals of Salisbury, Winchester, Peterborough, York, Lincoln, Beverley Minster, the abbeys of Westminster, Romsey, Netley, and many others, affording good illustrations. We may, however, briefly indicate some few of the salient points, such, for example, as the bold and simple forms of the shafts, the mouldings and windows, the delicate grace of the foliage, the simplicity and beauty of the designs for flooring tiles and stained glass, leaving our readers to work out the clue thus afforded either by actual study of the remains, or, if these are inaccessible, by aid of the numerous excellent works that in these days may so facilitate the labours of the student, if only he be willing to avail himself of their aid. As the Early Gothic has simplicity of treatment and detail as a conspicuous feature, so in Later Gothic do we find the reverse. As illustrative of our statement we may refer to buildings so well known as Henry VII.'s Chapel at Westminster, and the Cathedral of Milan. In each of these we find a great complexity of treatment, an overloading of ornament, a want of the repose that is so agreeable a feature in earlier works, and that, as in an equally well-known building, Salisbury Cathedral, imparts a feeling of such quiet dignity to the whole. Much of the German Gothic errs greatly in this overloading of ornament. The Oriental nations, guided by what almost appears to be instinctive good taste, while delighting greatly in quaint and complex arrangements of lines and colours, do not destroy the beauty of their work by a too great prominence of these features. The metal-work and embroidery of India, the textile fabrics and MSS. of Persia, are rich in ornamental details of the greatest beauty. Many of the

forms are complex in the highest degree, yet nothing is strained for the sake of effect; all appears to spring naturally from the circumstances of each case, and never interferes with the use. We see this very well in Fig. 31, a Cairene example. In the sultry East, as we saw in our first chapter, that on geometry, it is essential to comfort that the window openings should be numerous and at the same time small, that the refreshing breeze might enter, but not the fierce rays of the sun. Hence the walls are pierced by a series of small apertures, and to render these more pleasing to the eye they are ordinarily arranged in some geometric pattern and enclosed in an ingenious arrangement of strapwork. Much of the early work of the northern and western nations is very complex in its character. Celtic, Runic, and Scandinavian art is almost entirely composed of the interlacing of grotesque animals or of simple bands, but though thus limited in its aims, exhibits a wonderful development of skill in this narrow field.

Nature, ever the ornamentist's court of appeal, presents many fine examples both of the most refined simplicity of form and of the richest complexity. We need not dwell at any length on these, but if we consider the forms of foliage alone, as being those perhaps most commonly employed in ornamental compositions, we are struck with the variety displayed, some being, like the leaves of the fir, needle-shaped; others like a spearhead, as in the privet; or, like those of the box, elliptical; while, on the other hand, the leaves of the hemlock, carrot, fennel, peony, and many others, are exceedingly rich in outline. We need scarcely say that in choosing the plant upon which we propose to base an ornamental composition we must be greatly guided by a consideration of the amount of simplicity or richness we wish to throw into our work, as the character of leaf will greatly influence the character of the design. A simple leaf, like that of the olive or laurel, will, as we see in Fig. 283—a very common ornament upon Greek vases—produce a bold simplicity of design, while leaves deeply serrated, like the violet, or cut into bold masses, as in the maple or buttercup, are of themselves sufficient, as we observe in Decorated Gothic work, to give a very considerable richness and complexity of effect to the work in which they are introduced. It is therefore a not unimportant consideration in commencing any decorative work, to reflect, first on the effect we really wish to produce, and secondly, on the means that, judiciously employed, will best aid us in our endeavours. This, when stated in so many words, seems too self-evident to need mentioning; the want of this consideration nevertheless is especially hampering to the novice, who too frequently commences work without a settled plan, trusting to the chapter of accidents to supply in the end that which should have been the natural product of forethought at the beginning. This forethought may justly be deemed another development and offshoot of that consideration of the principle of fitness that we have already in a previous chapter advocated. Simplicity of effect is largely assisted by the continuous repetition of units, a simplicity still more apparent when the units themselves are of simple character, and arranged methodically according to a plan that the eye easily detects; thus, for example, Figs. 286, 287, a series of round spots all similar in size and equidistant, placed in a series of horizontal lines, gives a much greater effect of simplicity than if we modify these spots and make them into stars, some five-pointed, some six-pointed, and varying in size, further breaking up the methodic arrangement and scattering them broadcast like the stars of heaven, though in each case the elements of our design are of a very simple character.

Complexity of effect is greatly aided by the principle of variation, as the eye does not so readily comprehend the full scope of that which is presented to it. Fig. 339 is a good

example of this; it is derived from a Norman window-head at Birkin Church, in Yorkshire. In the original these forms are placed in juxtaposition round the semicircular line of the arch. They are very numerous and varied in design. We have here merely selected three fairly representative specimens. Our readers will, we think, readily feel the increased complexity and richness of effect that result from the marked variation and contrast of these disc forms. A cast of this window-head may be seen, by those to whom the original is not readily accessible, in the permanent collection in the museum at South Kensington. Colour, at the will of the ornamentist, is a powerful agent either in assisting the effect of simplicity or of adding to the richness and complex character of a decorative design. A familiar example of this latter effect may be seen in the tile pavements now so frequently to be met with, where the combination of very simple forms, such as the square, oblong, and right-angled triangle, results, owing to the colour, in designs frequently of great richness and beauty, as by this means particular combinations of forms simple in themselves may be developed and emphasised, and almost any amount of intricacy of design may thus be produced. As an illustration of what ingenuity may effect in producing the maximum of effect out of the most uncompromising and unyielding materials, Fig. 99, a Chinese fret pattern, is not uninteresting. If we put the problem in this way --Given, a number of lines parallel and equidistant, crossed at right angles by other and similar lines, to produce a pleasing design, we shall, we think, decide that the difficulties have been fairly met and equally fairly overcome. The Arabs are no less clever, Figs. 90 and 101, in producing the most complex designs out of combinations of such straight lines; and many of the more elaborate Greek frets are almost as ingenious in their conception as the works of the Orientals, In some Byzantine and German Gothic work, Figs. 89 and 100, we meet with very elaborate interlacings of straight lines on capitals, &c. Our space forbids our giving many illustrations of these, but any good illustrated book on the subject, such as "Heideloff," will furnish numerous examples.

The interlacing of lines has in some styles become a very marked principle; it appears sometimes to be an imitation of weaving, or, more correctly, a form derived from and suggested by it, the bands being contiguous, Fig. 428, as in woven material, and not having any open spaces between them. It is thus met with in Assyrian ornament, and very commonly indeed in Byzantine work, and more especially on the capitals of the columns. Our readers may, in the "Stones of Venice," see many excellent illustrations of this use of it. More frequently, however, it is found, Fig. 427, as an open interlacing of straps or cords, while in German Gothic, Fig. 429, the forms often simulate the branches of trees. The strap form is abundant in Byzantine, Mohammedan, Elizabethan, and Italian work. A good example of it is seen in Fig. 31, the pierced stone screen from Cairo. In some of these Eastern piercings the openings are more stellate than in the one we have here represented, producing a very pleasing and suggestive effect when viewed from the inside of the apartment, or when, the sun shining brilliantly through them, their forms are transferred in golden light on to the opposite wall or the floor beneath. It is to an effect thus produced by these openings of ornamental form that Victor Hugo alludes, except that in his charming poem the forms are cast by the moon's milder rays in silver on the walls—

> "Quand la lune, à travers les mille arceaux arabes, Seme les murs de trèfles blancs!"

The more flowing and rounded form that, for distinction's sake, we have named cord-

interlacing, in opposition to strapwork, which is ordinarily flat, is of constant application in Early Irish, Runic, Celtic, Scandinavian, and Anglo-Saxon art, both in illumination and stone-carving. The crosses that may from time to time be met with in Ireland abound with beautiful examples of interlaced patterns, wonderfully intricate in form and faultless in execution, sometimes being merely a cord, as in Figs. 424, 426; sometimes, as in Fig. 430, the pattern is developed by dots, and in other instances formed into writhing masses of snakes, birds, and nondescript monsters, their tongues, crests, legs, and tails being knotted and entwined in endless variety. We see the same marked features again in the Celtic MSS. On one page alone of the Gospel of St. Chad, a MS. of this early period, more than one hundred of these fanciful animal forms occur. Interlacing was very largely introduced in MSS. during the seventh, eighth, ninth, and tenth centuries, and to a certain extent in the eleventh century. After this time it does not become in any degree a characteristic, though scattered examples of it may frequently be found in later work. Interlacing patterns occur very commonly in classic work. The mosaic pavements, Roman, Carthaginian, &c., in the British Museum, afford numerous examples, some of them of a very complicated character; and the very popular patterns known as the speira or plait, and the guilloche, that are more or less met with throughout the whole range of art, no doubt owe a great deal of their charm to their interlacing lines. Interlacing forms also enter very largely into thirteenth century Italian art, Fig. 427. They are ordinarily far less complex in character than the northern examples, but what they may lack in complexity is ordinarily fully compensated for in the refinement of their forms. A very good example of interlacing conventional foliate forms is seen in Fig. 382. A highly curious set of chessmen, carved in walrus ivory, was found at Uig, Isle of Lewis, and may now be seen in the British Museum. The bishops are sitting figures, and the ornament represented in our illustration is carved on the back of one of the episcopal chairs. The love of interlacing forms reveals itself again in heraldry, in the numerous varieties of knots employed as charges in blazoning arms. Of these the most pleasing are the Bourchier, Boven, Harrington, Heneage, Lacy, and Stafford; the five first being borne by the families after whom they are named, while the sixth is a county device, tradition stoutly affirming that in mediæval times the Staffordshire men were such scoundrels that it was necessary to devise a knot that would facilitate the hanging of three at once. Be that as it may, the inhabitants of the county are proud of their device, and most of our travelled readers must be familiar with it, as it is painted on all the carriages and general rolling stock of the North Staffordshire Railway. Badges in heraldry are frequently knotted together by various interlacings at the union of two houses: thus the Dacre knot unites the escallop shell borne by that family with the historic ragged staff of the Beauchamps. The idea is a good one, as it at once pleasingly unites two dissimilar forms into one composition, and at the same time symbolises the closeness of the tie between the houses. Ruskin, in the "Stones of Venice," has some such thoughtful and interesting remarks on the love of all early nations for interlacing that we shall make no apology to our readers for quoting them, and more especially as in these pages our desire is not simply to give ex parte statements of ours, but also to direct the reader to other sources of information, being "well content if," in the words of Quintilian, "I can say what is right, though it may not be of my own invention." After referring to the works of the Scandinavians and Anglo-Saxons, the author goes on to say, "It is not often that any idea of utility has power to enhance the true impressions of beauty; but it is possible that the enormous importance of the art of weaving to mankind may give some interest, if not actual attractiveness, to any type or image of the invention to which we owe at once our comfort and our pride. But the more profound reason lies in the innate love of mystery and unity; in the joy that the human mind has in contemplating any kind of maze or entanglement, so long as it can discern through its confusion any guiding clue or connecting plan—a pleasure increased and solemnised by some dim feeling of the setting forth by such symbols of the intricacy and alternate rise and fall, subjection and supremacy, of human fortune; the

'Weave the warp, and weave the woof'

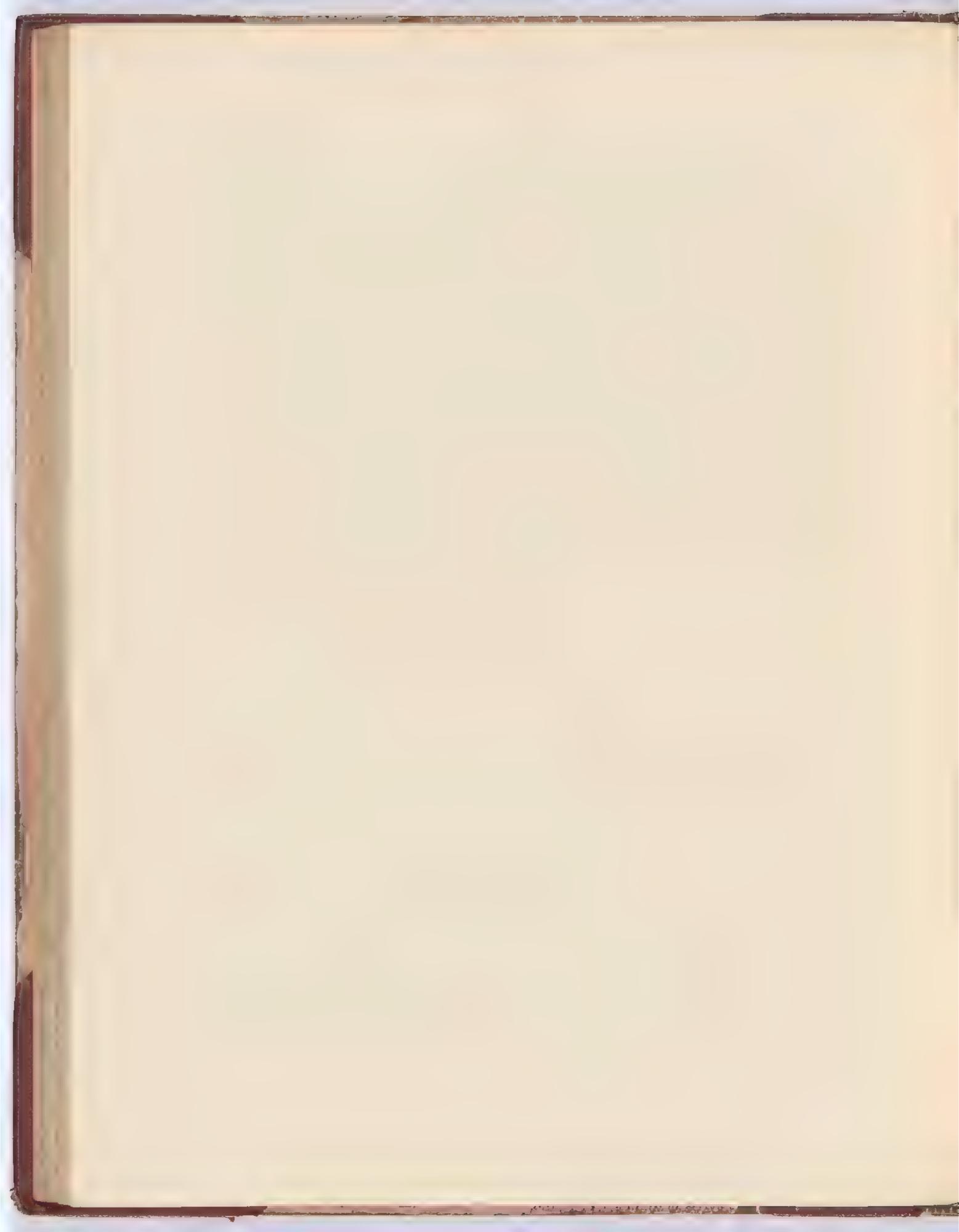
of Fate and Time. But be this as it may, the fact is, that we are never tired of contemplating this woven involution, and that, in some degree, the sublime pleasure which we have in watching the branches of trees, the intertwining of the grass, and the tracery of the higher clouds, is owing to it, not less than that which we receive from the fine meshes of the robe, the braiding of the hair, and the various glittering of the linked net or wreathed chain. Byzantine ornamentation, like that of almost all nations in a state of progress, is full of this kind of work; but it occurs most conspicuously, though most simply, in the minute traceries which surround their most solid capitals; sometimes merely in a reticulated veil, sometimes resembling a basket, on the edges of which are perched birds and other animals."

Ornamentists draw a clear distinction between three words not unlike in mere sound: interlacing, intersection, interpenetration, and our few concluding remarks will suffice to explain the nature of the three principles. Interlacing, as we have seen at some little length, results from the intertwining of lines or bands. The bands, if truly worked, should alternately rise above and pass beneath each other, so that if the reader will trace any given line in our examples, he will find that it first crosses over a line, and then is in turn crossed. In intersection the forms merely cut each other at the points of contact, there is no attempt at weaving them together; thus, in Fig 294, a Chinese fret, a series of lines in one direction is intersected by another series at right angles to these; while, in interpenetration, the forms are represented as actually passing through each other. The principle of interpenetration is not so frequently met with as either of the others we have just referred to, though examples are not uncommon in Elizabethan and Late Gothic, more especially that of the German school. It consists either of ornamental scrolls alternately appearing and disappearing as they appear to pierce other scrolls or cartouche forms-of this many Elizabethan examples afford a good illustration-or, as in the Late English and German Gothic, of a shaft or any moulding being crossed by another moulding or series of mouldings, through which it presently appears to issue. In German Gothic it becomes a very marked feature, and is met with to an extent that is soon felt to be monotonous and wearisome. The effect is produced at great expenditure of labour, and is not satisfactory when accomplished. In the East a great use is made of the bamboo, the legs of tables, stools, &c., being made by uprights of thick cane, pierced at intervals for the insertion of cross-struts and braces of smaller cane. In this case the effect of interpenetration is good, being in accordance with structural requirements; but it is a mistake to create such effects when there is no necessity for them, the result being, that what should appear rigid and firm stonework has a plastic and soft appearance foreign to its nature, and inferior to its real properties thus imparted to it, a degradation of the material that is neither desirable nor indeed justifiable. The numerous breaks of line that result in this system of interpenetration are, if not really a source of weakness, at least apparently so, and on this ground also offend the eye.

We conclude, as we commenced, with a strong feeling of the magnitude of the task that lies before any one who would desire to treat the subject exhaustively. Should our labours, slight as they are, prove in any way a help to those desirous of gaining some insight into the principles and practice of ornamental art, we trust that they will thank us rather for what little help we may thus have afforded them than dwell, as we too well know that they might do, upon all the sins of omission that might so readily be charged to us.

We shall not indulge in the usual formula by saying that if but one student finds himself the better for our work we shall feel amply repaid, since such assertion appears to us often a little hypocritical, and at best but the expectation of a result that does not bear due proportion to the labour expended. We would rather say that we cherish the hope that many who read these pages will rise from them prompted by a desire to search more deeply into matters than we are here able to go, but nevertheless deriving from our labours at least this desire to know more.

Many kindly expressions of appreciation have reached us from those to whom personally we are quite unknown, and from some—since even far Australia has contributed—whose faces we may never see. We therefore gladly take this opportunity of thanking all such well-wishers, assuring them that in the feeling that our labours are of use we find our highest reward, and in the appreciation of those who have thus benefited we derive our greatest encouragement.



# INDEX.

## A.

ABATEMENT in Blazonry, 80. Abbreviations in Old MSS., 61. Acanthus in Classic, 110; Byzantine, 110; and Modern English Design, 110. Action, Symbolism of, 22. Adherence to Letter of Law, Slavish, 96. Adijerat, Paintings in Church of, 32. Adrian, Persecution under, 23, 63. Advancing and Retiring Colours, 102. African Calabash, Carving on, 67. Aggroupment in Blazonry, 78. Agnus Dei, Symbol of the, 32. Ahmedabad, Mosque of Dustoor Khan at, 4. Air, The: how symbolised, 48. Albert Durer, Monogram of, 64. Aldrovandus on the Basilisk, 77. Alexander, Itineraries of, 57. Alexandria, School of, 2. Alhambra, Court of Lions at, 111; Owen Jones on, 4; Palace of the, 60. Alison on the Essentials of Beauty, 88. Allegories, Mediæval Pictorial, 21. Almond: its Symbolic Significance, 43. Alternation of Forms in Design, 90. Amaranth, mentioned by Milton, 45. Ambrose on the Evangelistic Symbols, 31. America, Eagle a Symbol of, 29, 76. Ammonites, 17. Amunothph II., Pharaoh of Egypt, 58. "Analysis of Beauty," Hogarth, 120. "Analysis of Ornament," Wornum, 88. Anchor, as Heraldic Device, 77; marked on Chelsea Ware, 58; Symbol of St. Clement, 22, 51. Ancient Writers on the Origin of Geometry, 2. Angel as Symbol of St. Matthew, 31. Animal Worship, Egyptian, 26, 30; Jewish, 26, 36. Annulet as a Mark of Cadency, 80. Annunciation, Representations of the, 43. Anthemion Form in Ornament, 67. Anubis, Cock dedicated to, 28; Dog of, 29; Jackal of, 22, 30. Ape Sacred to Thoth, 30. Apis of the Egyptians, 26; Dedicated to Osiris, 30. Apocalyptic Vision of St. John, 31, 41. Apostles as Types of the Christian Church, 39. Aquarius, Symbol of, 48. Arabian Fret Forms, 126.

Arabic Love of Counterchange, 4, 5.

Archetype of Guilloche, 17.

Archæology, Value of the Study of, 60.

Architectural Forms introduced as Decorative Features, 98, 100, Arezzo Ware, 19. Argent in Heraldry, 74. Armes Parlantes, 73. Arm of the Lord, 33. Armour, Representations of, as Decorative Features, 99. Arrowhead Characters of Assyria, 57, 59. Arrowhead, Stem Triangular in Section, 111. Arundel Marbles, Oxford, 62. Asp of Rano and Neph, 26. Ass, an Emblem of Stupidity, 29. Ass, Hippopotamus, and Pig dedicated to Typho, 31. Assyrian Art, History of, 66; Composite Animal Forms, 31; Pottery, 5; Treatment of Water, 48. Astaroth and Astarte, Worship of, 48. Asterina Gibbosa, the Gibbous Starlet, 11. Athene, Minerva or Pallas, 27. Athenæum Club, London, Frieze at, 87. Athor of the Egyptian Mythology, 30; Cow a Symbol of, 30. Athys, Worship of, in Lydia, 48. "Atlas Pittoresque" of Humboldt, 55. Attributes of Deity, The Six, 39. Augmentation in Blazonry, 80. Aurelius, Persecution under, 23. Austria, Eagle Symbol of, 29, 76. Azure in Heraldry, 74.

## В.

Bacchus, Thyrsus of, 52; Vine a Symbol of, 42. Badges of Scottish Clans, 47. Badges: their Nature and Use, 72, 78, 127. Ball-flower of the Decorated Gothic Period, 10, 14. Bamboo Construction in the East, 128. Bamboo in Chinese and Japanese Art, 111. Basilisk or Cockatrice, 77. Bayeux Tapestry, Heraldry of the, 72. Beech-trees, Carvings on, 56. Behistun, Rock-tablets of, 69. Bell, John, Definition of Decoration, 84. Bells in Jewish Ornament, 43. Bells, Inscriptions on Mediæval, 65. Beni Hassan and Thebes, Tombs of, 30, 85, 95. Ben Jonson on Ancestral Fame, 73. Benozzo Gozzoli, Pictures of, 51. Biblical Account of the Empire of Assyria, 69. Biblical Heroes and their Fictitious Armorial Bearings, 73. Billet-moulding, 10. Bi-symmetrical Arrangements, 86. Bittern, an Emblem of Desolation, 29.

Bi-valve Shells generally Bi-symmetrical, 86. Blackberry, Design based on the, 115. Black, its Symbolic Meaning, 38. Blazonry or Heraldry, 71. Bologna Ware, 19. Bonomi on the Assyrian Remains, 70. Book of Kells, 4. Borage, Inflorescence of, 17. Botanical Knowledge essential to Designers, 60. "Botanical Magazine:" the Dove Orchid, 28. Botta, Layard, and Rich, Labours of, 70. Boustrophedon Inscriptions, 59. Boutell, "English Heraldry," 71. Brahmins of India clothed in White, 37. Bramah, Bull the Symbol of, 30. Branch-letters, 65. Brass as a Substance for writing on, 56. Brazen Serpent of the Jews, 26. Bread and Wine of the Lord's Supper symbolised, 42. Brimstone Butterfly: Example of Colour Harmony, 103. Broom Plant as Heraldic Badge, 21, 47, 78. Buhl Work: its Nature, 10. Bull of Pope Innocent III., 62. Bull, as Heraldic Device, 76; Symbol of Bramah and Osiris, 30. Bulrush, Design based on the, 115. Burnet, "Education of the Eye," 87. Burying the Hatchet, 22. Butterfly in Art, 27. Byzantine Treatment of the Acanthus, 110. Byzantium: its Christian Origin, 42, 96.

## C.

Cable-moulding, 17. Cadency in Heraldry, 8o. Caduceus of Mercury, 52. Caliphs, Standards of the, 38. Cambyses: Influence on Art, 94. Canopies, Fictitious, in Decorative Work, 98 Canting Heraldry, 73. Canate, Charter of, in British Museum, 63. Capitol, Wolf of the, 30. Capture of Sardis: its Effect on Art, 95. Carmelites and Dominicans, Dress of, 38. Cartoons of Raphael, 50. Carvings on Beech-trees, 56. Caryatides in Classic Architecture, or. Castel-Durante Ware, 19. Catacombs of Beni Hassan and Thebes, 30, 85, 95. Catacombs of Rome, 23, 32, 41, 42. Cat dedicated to Pasht, 30. Cathedral of St. Peter, Rome, Mosaics in, 34. Cause of the Sameness of Egyptian Work, 38. Champollion on the Proto-Doric, 95. Charges in Heraldry, 74. Charters in British Museum, 63. Chelsea China, 58. Chessmen, Ivory, found at U1g, 127. Chevreul on Colour, 101. Chinese Use of Symbolic Numbers, 40. Christian Church, Figure symbolising the, 32. " Christian Martyr" of Delaroche, 50. Christmas, Robin, Symbol of, 29. Christ symbolised by the Lamb, 32; by the Lion, 31. "Chromatography," Field, 101. Chrysanthemum in Eastern Art, 111. Church Bells, Inscriptions on, 65.

Cimabue a Worker in Mosaic, 34. Ciphers: their Nature, 62. Circinate Vernation of Ferns, 17. Circle in Ornament, 14, 39. Clan Badges in Scotland, 47. Classic Writers on the Assyrian Empire, 70. Clavigero on Mexican MSS., 54. Clay, Stamped Records on, 58. Clement, Anchor of, 22, 51; Teaching of, 35. Clover-leaf, Treatment of, 21. Coal-money of Kimmeridge, 13. Coats of Arms, 72. Cockatrice or Basilisk, 77. Cock as Christian Symbol, 28; Egyptian Symbol, 28; Heraldic Device, 76. Coinage, Inscriptions on, 64; Monograms on, 63. "Colour and Taste," Wilkinson, 101. Colour-blindness or Daltonism, 105. Colouring of Assyrian Ornament, 68. Colour: its Nature and Use in Decorative Art, 100. Colours: how represented in Heraldry, 75. Colour, Symbolism of, 22, 36. Columbine Blossom, Badge of Henry IV., 47. Comfrey, Inflorescence of, 17. Common Charges in Heraldry, 76. Complementary Colours, 101. "Complete Body of Heraldry," Edmonson, 76. Complexity as a Principle in Decorative Work, 121, 122. Composite Animal Forms, 24. Concave Curves of Chinese Roofs, 99 Cone or Pine-apple Form in Assyrian Sculpture, 68. Conquest of Assyria by Cyaxares, 69. Constantine, Coin of, 63. Constantinople captured by the Turks, 111. Construction: its Influence on Decoration, 84, 99. Construction of Counterchange Designs, 5. Contrast as a Principle in Ornamental Art, 119. Conventionalism and Naturalism of Treatment, 107. Cord Form of Interlacing, 126. Cordova, Cathedral of, Moorish, 111. Corn on Jewish Coinage, 41. Counterchange, 5, 90. Counterpotent, 75; Countervair, 75. Court of Lions, Alhambra, 111. Cow, Symbol of Athor, 30. Craft, Fox an Emblem of, 29. Crescent Moon, Badge of the Percys, 78; dedicated to Diana, 22; Mark of Cadency, 80. Crests: their Nature and Use, 78. Crocodile, Object of Worship, 26. Cross in Blazonry, 50, 76; in Christian Art, 49; on Coms, 50; prefacing Inscriptions, 62. Cross of Kilklispeen, Ireland, 8. Crown or Wreath as Symbols, 51. Cruelty, Wolf an Emblem of, 30. Crusades: Influence on Heraldry, 73. Cufic Characters of Alhambra, 56. Cuneiform Characters, 54, 68. Cursive Writing, 56. Cussans, "Manual of Heraldry," 71. Cyril, Symbolic Teaching of, 35.

# D.

Dagon, God of the Philistines, 24.
Daltonism or Colour-blindness, 106.
Damask Rose: its Origin, 46.
Dante, "Paradise" of, 29; "Rose of Heaven," 46.

Decorated and Early English Foliage contrasted, 108. Delaroche, "Christian Martyr," 50. Demand for Novelty injurious to Good Work, 116. Derivatives of the Circle, 14. Deruta Ware, 19. Design a higher thing than Decoration, 115. Diana, Crescent Moon of, 22; Stag of, 30. Diapering: its Nature, 15, 19. Digby Wyatt on Metal Work, 32; on Mosaic, 10. Dimidiation in Heraldry, 78. Diodorus, on Study of Geometry by Egyptians, 1; on Assyria, 70. Distribution of Colour in a Design, 105 Dog, dedicated to Anubis, 29; denounced by Koran, 29; Emblem of Fidelity, 29. Dog-tooth Moulding, 10, 123. Dolphin in Design, 25. Dominicans and Carmelites, Dress of, 38. Doric Order, Greek and Roman, 124. Dorothea, Virgin and Martyr, 46. Dor-beetle, 26. Dove in Christian Art, 28, 33. Dove Orchid, 28. Dragon in Art, 27; in Heraldry, 77. Drapery, Representations of, as Decorative Features, 101. Dresser, Juxtaposition of Green and Purple, 97; Naturalism and Conventionalism, 112. Druids, robed in White, 37. Du Cange on the Nimbus, 50. Durandus, Symbolic Teaching of, 36. Durham, Lectern at, 29. Dyce on the Study of the Human Figure, 98.

# E.

Eagle, as Evangelistic Symbol, 31; Heraldic, 76; of Jove, 22, 29. Early English and Decorated Foliage contrasted, 108. Early English Dog-tooth Moulding, 10, 123. Early Inscriptions and MSS. unpunctuated, 62. Earth: how represented, 48. Eastern Poetry: its Hyperbolic Character, 61. Edgar, Charter of, in British Museum, 63. Edkins on Chinese Symbolism of Numbers, 40. Edmonson, "Complete Body of Heraldry," 76. "Education of the Eye," Burnet, 87. Edward the Confessor, Fictitious Armorial Bearings of, 72. Egyptian, Fish Symbol, 24; Glass Mosaic, 8; Lotus Form, 24; Treatise on Geometry in the British Museum, 1; Representation of Water, 48; Sphinx Form, 25; Work: Cause of its Sameness, 38. Eight: its Symbolic Significance, 39. Elements: how symbolised in Art. 48. Elephanta, Caves of, 95. Embaimed Animals of the Egyptians, 26, 27, 30. "English Heraldry," Boutell, 71. Equilateral Triangle in Ornament, 12; Symbol of Siva, Ermine, Ermines, and Erminois, 75. Escurial, Palace of the, 64. Eucharistic Symbols, 42. Eusebius on the Assyrian Empire, 70; Writings of, 57. Evangelistic Symbols, 31. Exaggerated Forms of Symbolism, 35. Exeter Cathedral, Motto from, 53. Eye of the Lord, 33. Ezekiel, Vision of, 31.

# F.

Fables, Parables, and Proverbs, 22. Face in Front View in all Christian Mosaic, 33. Face in Profile in all Egyptian and Assyrian Work, 33. Faenza Ware, 19. Faith symbolised by Spenser, 37. False Use of Geometric Forms, 7. Ferarra Ware, 19. Ferns, their Circinate Vernation, 17. Fidelity, Dog an Emblem of, 29 Field, Advancing and Retiring Colours, 102; "Chromatography," 101. Figures symbolising Christian and Jewish Churches, 32. Fire: how expressed in Ornamental Art, 48. Fire-worship, 48. Fish Form in Art, 23 Fitness, Natural Examples of, 116, 119. Fitness of Form to Use in Ornament, 115, 122. Flatness, Sense of, in Floor-coverings, 6. Fleur-de-lis, dedicated to France, 80; dedicated to the Virgin Mary, 80; in English Heraldry, 80; Mark of Cadency, 8o. Flor del Espirito Santo or Dove Orchid, 28. Florentine Marble Inlay, 7. Fluting of Classic Shafts, 124. Forget-me-not, Inflorescence of, 17. Form, Symbolism of, 22 Forsyth, "History of Ancient MSS.," 61. Forty, expressive of Probation and Trial, 40. Four: its symbolic Meaning, 39. Fox, Emblem of Craft, 29; in Heraldry, 76. French Eagle, 29, 76. Frescoes of Old Masters reproduced in Mosaic, 34. Frets: how constructed, 7. Fruit Forms, Treatment by Chinese and Javanese, 114. Fungoid Forms in Ornament, 47. Furs in Heraldic Devices, 75.

G. Geometry, as a Science, 1; Egyptian Treatise on, in British Museum, I; in Nature, II; its Origin, I; its Symbolic Meaning, 6. Geotrupes Stercorarius or Dor-beetle, 26. Ghiberti Gates, 100. Giotto a Worker in Mosaic, 34. Glaisher on Snow-crystals, 11. Glass Mosaic, Egyptian, o. Gluttony, Pig an Emblem of, 29. Golden Calf of the Jews, 26, 36. Golden Image of Nebuchadnezzar, 36. Golden Rose of the Popes, 46. Gold: its Symbolic Significance, 36, 37. Gom, Lion sacred to, 30. Goose sacred to Seb, 27. Gospel of St. Chad, 127. Gothic Architecture largely Geometric, 10. "Grammar of Ornament," Owen Jones, 83, 102, 113. Greek Church, Great Use of Mosaic, 33. Greek Representation of Water, 49. Green: its Symbolic Meaning, 38, Gridiron of St. Lawrence, 64. Griffin in Heraldry, 77. Grotefend and Lassen, Labours of, 69. Grotesque Animal Letters, 24, 65. Ground and Figure Identical in Form, 5, 90. Groves in Ancient Religions, 45.

Gubbio Ware, 19.
Guidobaldo II., Duke of Urbino, 18.
Guilloche Form in Ornament, 14, 16.
Gules in Heraldry, 74.
Gurge or Whirlpool, 17.

#### Η.

Hampton Court Palace, Glass at, 72. Hand of the Lord, 33. Harmony of Colour, 103. Harpocrates, God of Silence, 46. Harpy in Blazonry, 77. Hawk and Vulture, Sacred to Re, 27. Hebrew Alphabet: its Nature, 55. Heideloff on Byzantine Decoration, 93, 126. Hell in Mediæval Representations, 25. Henri Deux Ware, 14, 62. Henry II., Badge a Broom Plant, 47. Henry IV., Badge a Columbine Flower, 47. Heraldry or Blazonry, 71. Herb-basilisque, 77. Hercules the Hydra-slayer, 27. Herodotus, on the Assyrian Empire, 70; on the Phænix, 77. Hesiod, the Phænix, 77. Hexafoil in Ornament, 15. Hieroglyphic Characters of Egypt, 58, 59. Higher Animal Forms Bi-symmetrical, 86. Hippopotamus, Ass, and Pig dedicated to Typho, 31. " History of Ancient MSS.," Forsyth, 61. "History of Egypt," Sharpe, 55. Hittorf on the Colouring of the Greeks, 102. Hogarth, " Analysis of Beauty," 120. Holly, Design founded on the, 115. " Holy War:" its Pictorial Imagery, 22. Honeycomb: its Geometric Character, 12. Honeysuckle, Natural Growth of the, 67, 86. Honourable Ordinanes in Heraldry, 75. Horizontal Line in Ornament, 83. Horned Snake in Egyptian Art, 26. Horse, an Emblem of Strength, 29. Horus, Throne of, 25. Hudson on Symmetry in Design, 88; Naturalism and Conventionalism, 112. Hues of Colour: their Nature, 103. Human Form in Christian Art, 32. Humboldt," Atlas Pittoresque," 55. Hydra in Art, 27. Hyperbolic Character of Eastern Poetry, 61.

#### ĭ

Ibis of the Egyptians, 27. " Idler," Papers on Art in, 96. I.H.S., Sacred Monogram, 63. Imitation of one Material in another, faulty in Principle, 117-Impalement in Heraldic Bearings, 78. Incarnation of Vishnu, 52. Incongruous Combinations in some Renaissance Work, 114. Indian Lotus or Water-bean, 44. Influence of Commerce and War on Art, 94, 95. Inherent Beauty of Geometric Forms, 3. Inquisition in Spain, 36. Inscriptions, as Elements of Ornamental Art, 53; of the Alhambra, 60, 61; on Coinage, 59, 64; prefaced by the Cross, 62. Insect Forms in Art, 26; in Heraldry, 76. Interchange as a Principle in Design, 90.

Interlacing of Animal Forms in Celtic Art, 89, 125, 127. Interlacing of Lines in Ornamental Art, 127, 128. Interpenetration of Forms in Ornamental Art, 128. Intersection of Lines in Ornamental Art, 128. Ionic Capital, 17.

Ivory as a Substance for Writing on, 56.

Ivy, Design based on the, 114.

## J.

Jackal of Anubis, 22, 30. Jameson on Symbolism, 34. James IV. of Scotland; the Thistle, 46. Javanese Treatments of Fruit Forms, 114. Jerome on the Evangelistic Symbols, 31. Jewels as expressive of Tinctures, 75. Jewish Animal Worship, 26. Jewish Church, Figure symbolising the, 32. John St., Symbol, the Eagle, 31. Johnson on the Use of the Labours of Others, 97. Josephus on the Assyrian Empire, 70. Judæa, Symbolic Figure of, on Coinage, 41. Jupiter Ammon, 17. Jupiter, Thunderbolt of, 52. Justin on the Assyrian Empire, 70. Juxtaposition of Colours: its Modifying Effect, 101, 105.

#### K.

Kaleidoscope, Multi-symmetrical Forms in, 67, 87.
Karnac, Temple of, 91.
Katharine of Arragon, Badges adopted by, 47.
Keilformig, or Tête-à-clou, 68.
Kelland on Colour-blindness, 106
Kells, Book of, 4.
Key Patterns or Frets, 8.
Keys of St. Peter, 22.
Kilklispeen, Celtic Cross of, 8.
Kimmeridge Coal-money, 13.
Knots, various Forms of, as Heraldic Devices, 77, 127.
Koran. the Dog, 29; the Influence of, on Mohammedan Art, 60, 111.
Kyonjik, Pavement from, 2, 44.

## L.

Label as Mark of Cadency, 8o. Labour available a Consideration in Design, 122. Lamb as a Symbol of Christ, 32. Lamp as an Emblem, 51. Lancastrian Rose, 21, 78. Language, Symbolism of, 22. Lardner on Snow-crystals, 11. Lassen and Grotefend, Labours of, 69. 'Last Supper," of Leonardo da Vinci, 88. Laws in Art: how far binding, 96. Laws of Moses, Solon, and Themistocles, 56. Layard, Botta, and Rich, Labours of, 70. Lead as a Substance for Writing on, 56. Leaves of Trees as Substances for Writing on, 56. Lecterns, Durham, 29; Messina, 32; and Norwich, 29. Leebeck on Colour-blindness, 106. Legend, of Prometheus 48; of the Phænix, 77. Lens found at Nineveh, 9. Leonardo on Colour Harmony, 103. Lepidotus of the Egyptians, 24. Levitical Priesthood, Rites of the, 23. Lilies of France in English Heraldry, 80.

Lily, its Symbolic Significance, 43; of the Bourbons, 21; of the Nile, 44.

Linen-pattern in Late Gothic Work, 100.

Lion, Emblem of St. Mark, 31; Heraldic Device, 75; in Ornamental Art, 31; sacred to Hercules, 30.

Lizard, Object of Worship, 26.

Lote-tree of the Koran, 45.

Lotus Form in Art, 44; Indian Treatment, 45.

Love of Ornament universal Feeling, 94.

Love of the Marvellous and Mysterious, 4, 128.

Loving-cups of Civic Feasts, 22.

Lower Animal Forms ordinarily Multi-symmetrical, 86.

Luke, St., Ox the Symbol of, 31.

#### M.

Machinery, Influence of, on Design, 90. Madras School of Art, Drawings from, 7. Magi of Persia, 48. Magpie and Raven in Christian Art, 28. Mai, Literary Labours of, 57. Majolica: its Nature and History, 18. Malay Creese, Inscription on, 65. Mantling in Heraldry, 81. "Manual of Heraldry," Cussans, 71. Marine Signal-code, 76. Mark, St., Symbol, the Lion, 31. Marks on Chelsea, Dresden, and Swansea Ware, 58. Mars, the Star of the Warrior, 48. Marshalling in Blazonry, 78. Martes, Sacred Fish of the Egyptians, 24. Martlet as Mark of Cadency, 80. Martyrs, Christian, of Rome, 23, 25, 42. Material influencing Form of Design, 122. Matthew, St., Emblem, the Angel, 31. Maximinian, St., Chair of, at Ravenna, 42. Medeenet Haboo, Temple of, 91. Merchants' Marks, 65. Mercury, Caduceus of, 52. Mermaid as Heraldic Device, 77. Messina, Lectern at, 32. "Metal Work," Digby Wyatt, 32. Mexican, God of the Air, 25; Picture-language, 54; Pottery, 2. Milton: the Amaranth, 45. Minerva, Olive, Symbol of, 27; Owl, Symbol of, 27. Mohammedan Ornament conventional, 111. Mohammedan Sects, 60. Monograms, on Comage, 63; on Pictures, 64; Origin and Nature, 61. Montesqueu on Taste, 88. Moore, "Paradise and the Peri," 45; the Phœnix, 77. Moors, Use of Geometry by the, 2, 4. Mosaic: its Nature and History, 8, 33. Mottoes in Heraldry, 65, 78, 79. Motto from Exeter Cathedral, 53. Multifoil Figures in Ornament, 15. Multi-symmetrical Forms, 86. Murano Glass, 117, Musical Instruments, Representations of, as Decorations, 99. Mythical Animal Forms, 24, 31, 77.

## N.

Napkin-ornament in Late Gothic, 100.
Napoleon I., Tomb of, 29, 100.
Natural Geometric Forms, 11.
Naturalistic Argument for use of Colours, 104,

Naturalism and Conventionalism of Treatment, 107.
Nebuchadnezzar, Golden Image of, 36.
Nehushtan of Hezekiah, 26.
"Nemo me impune lacessit," 46.
Neph, Asp of, 26.
Neptune, Trident of, 22, 52.
New Guinea, Fret Form on Pottery, 8.
New Zealand, Woven Geometric Patterns, 7.
Nimbus Forms, 50, 51.
Nisroch, Vulture dedicated to, 27.
Norwich, Lectern at, 29.

#### Ο.

Oblong in Ornament, 12. Odin the Originator of Written Characters, 56. Oiron or Henri Deux Ware, 14, 62. Olive, Symbol of Pallas, 27. Or: its Use in Heraldry, 74. Ornament based on Geometric Construction, 2. Ornament of Past not necessarily Good, 109. Osiride Pillars in Egyptian Architecture, 91. Osiris, Sacred Bull of, 30. Ostrich Feathers as a Badge, 78. Outlay available a Consideration in Decoration, 122. Overthrow of Perseus: Influence on Art, 95. Owen Jones, "Alhambra," 4; "Grammar of Ornament," 83, 102; Naturalism and Conventionalism, 113. Owl, Emblem of Desolation and Ruin, 29; Object of Veneration in Tartary, 27; Symbol of Pallas, 27. Oxyrhinchus of the Egyptians, 24.

## P.

Palimpsest MSS., 56. Pallas, Olive and Owl Symbols of, 27. Palm-branch as a Symbol in Christian Art, 41. Palm-tree on Jewish and Scottish Coinage, 41. Papyrus as a Substance for writing on, 1, 56. " Paradise and the Peri," Moore, 45. " Paradise" of Dante, 29. Parsees of India, 48. Parthenon or Temple of Pallas Athene, 27, 87. Pasht, Cat dedicated to, 30. Passion-flower: its Significance in Ecclesiastical Art, 43. Passion Symbols in Christian Art, 49. Patera Form in Ornament, 66. Pavia, Majolica at, 18. Peacock, Burmese, 15; in Christian Art, 28. Pelican, in Heraldry, 76; in Sacred Art, 28; Emblem of Desolation, 29, Penrose on Colouring of Greek Architecture and Sculpture, Pentalpha in Byzantine Work, 13. Persecutions of the Early Christian Church, 23. Perseus the Dragon-slayer, 27. Perugia Ware, 19. Pesaro, School of Pottery at, 19. Phagrus of Egyptians, 24. Pharaoh, Meaning of the Word, 58. Philæ, Resting-place of Osiris, 30. Phœnician Relics in England, 14. Phœnix, in Art, 27; in Heraldry, 77. Pictorial Allegories, 21. Picture-language of Mexico, 54. Pictures marked by Monogram of Artist, 64. Pig an Emblem of Gluttony, 29. " Pilgrim's Progress," Pictorial Imagery of. 32.

Pillar of Fire in the Wilderness, 48. Pine-apple or Cone Form in Assyrian Sculptures, 68. Pme-tree: Natural Example of Fitness of Form to Growth, Plait Form or Speira, 16. Planets as expressive of Heraldic Tinctures, 75. Planets as Symbols of the Classic Deities, 48. Plantagenista Badge, 47. Plants largely used in Biblical Teaching, 41. "Plants: their Natural Growth and Ornamental Treatment," 11, 87. Plato on the Sameness of Egyptian Work, 39. Plautus on the Potter's Wheel, 85. Pliny, on Mosaic, 9; the Phœnix, 77. Polygonal Forms in Ornamental Art, 13. Pomegranate, Badge of Katharine of Arragon, 47; in Jewish Ornament, 43. Portcullis of Westminster, 50. Portraits of Christ, 51. Posy-rings: their Nature, 65. Potter's Art. Antiquity of, 84. Prevost on Colour-blindness, 106. Primary Colours, Nature of the, 100. Principal Figures made larger in Early Work, 32. Proto-Doric Columns of Beni Hassan, 95 Prussla, Eagle Symbol of, 29, 76. Pseudo-buttresses in Decorative Work, 15. Pthan of the Egyptians, 26. Ptolomy Epiphanes and the Rosetta Stone, 59. Publius Lentulus, Description of Christ, 51. Purpure in Blazonry, 74. Pythagoras and Thales as Geometricians, 2.

## Q.

Quartering of Armorial Bearings, 78. Quatrefoil in Ornament, 14. Quintilian, Extract from, 127.

# R.

Radiation as a Principle in Ornament, 90. Rano, Asp dedicated to, 26. Raphael, Cartoons of, 50. Raphael Ware, 18. Ravenna, Chair of St. Maximinian, 42. Ravenna Ware, 19. Raven, in Blazonry, 76; the Standard of Vikings, 28. Raven and Magpie in Christian Art, 28. Rawlinson, Labours of, at Bagdad, 69. "Recollections of the Last Four Popes," Wiseman, 57. Redgrave, "Report on Design," 116. Red: its Symbolic Significance, 36, 38. Rehoboam a Captive in Egypt, co. Reisner Work, 10. Relief, Simulation of, 7, 100, 117. Repetition as an Art Principle, 89. Reptile Forms in Design, 26; in Heraldry, 76. Restoration: its Use and Abuse, 72. Re, Vulture and Hawk sacred to, 27. Reynolds, Sir Joshua, on Laws in Art, 96; on Naturalism and Conventionalism, 113. Rhombus in Ornament, 13. Ribbon-letters, 65. Right-angled Triangle in Ornament, 12. Robin, a Symbol of Christmas, 29. Rock-tablets of Behistun, 69. Rolls of Arms, 71.

Roman Churches, Majolica affixed to, 18. Roman Stamped Tiles, 58. Rome, Catacombs of, 23, 32, 41, 42. Rosa Sine Spina, 47, 64. Rose, as a Mark of Cadency, 80; dedicated to Virgin Mary, 46; Heraldic Use of, 75; in Classic Mythology, 46; in Christian Art, 46; of Pagan Art, 46; of the Popes, 46; of Sharon, 46; of York and Lancaster, 47. Rose or Wheel Windows, 14. Rosetta Stone, 59, 68. Rosette Form in Ornament, 66. Rules of Colouring vague in their Nature, 97, 100. Runic Characters of Scandinavia, 56. Ruskin, Advancing and Retiring Colours, 102; Juxtaposition of Green and Blue, 97; "Modern Painters," 88; Naturalism and Conventionalism, 111; on Interlacing, 127; "Stones of Venice," 100, 126, 127; Study of the Figure, 98; Symmetry, 88. Russia, Fagle a Symbol of, 29, 76.

## S.

Sable in Blazonry, 74. Sacred Fire of the Vestal Virgins, 48. Sacred Fish of the Egyptians, 24. Sacred Geese of Rome, 28. Sacred Monogram, Forms of the, 41, 63. Sagittarius in Blazonry, 77. Salamander in Heraldic Devices, 77. Santa Apollonica, Pisa, Majolica at, 18. Santa Maria della Rosa, 46. Saturn: a Symbol of the God of Time, 48. Saxon Coin, the Wolf and Children, 30. Scale and Position of Ornament to be studied, 118. Scale Form in Ornamental Art, 14. Scarabæus or Sacred Beetle, 24, 26. Scotland, Thistle of, 46. Scottish Clans, Badges of the, 47. Sea Horse and Sea Lion as Heraldic Devices, 77. Seals, Value of Emblazoned Devices on, 73. Seb, Goose sacred to, 27. Secondary Colours, Nature of, 100. Semicircle in Ornament, 14. Semper on the Colouring of Classic Architecture and Sculpture, 102. Seneca Indians, Custom of, 22. Sennacherib, King of Assyria, 27, 58, 69. Sense of Flatness in Floor-coverings, 6. Serpent in Mythology and Art, 25. Seven, the Number of Perfection, 39. Shades and Tints of Colour, Nature of, 103 Shaft-sections Geometric in Character, 11. Shalmanezer, King of Assyria, 31, 69. Shamrock of Ireland, 46. Sharpe, "History of Egypt," 55. Sheaf of Arrows, Badge of Katharine of Arragon, 47. Shushan, Mosaic at Palace of, 8. Signal-code, Marine, 76. Silver, its Symbolic Significance, 36, 37. Simplicity as a Principle in Design, 121, 122. Simulation of Relief Work, 7, 100, 117. Siva, Equilateral Triangle a Symbol of, 62. Six, its Symbolic Meaning, 39. Skins of Animals as Substances for Writing on, 56. Snowdrop dedicated to Virgin, 37, 43. Soul of Man symbolised in Art, 32. Speira or Plant Form, 16. Spenser, "The Faërie Queene," 37.

Sphinx Forms, in Biazonry, 77; in Ornamental Art, 25.
Spiral Line, in Nature, 17; in Ornament, 17, 123.
Stag, in Blazonry, 76; Christian and Classic Symbol, 30.
Standards, of the Caliphs, 38; of Constantine, 25, 63.
"Stones of Venice," Ruskin, 100, 126, 127.
Strap Form in Interlacing, 126.
Study of the Figure, Dyce and Ruskin on, 97, 98.
Stupidity, Ass a Symbol of, 29.
Style in Ornament, 93.
Sub-ordinary Charges in Blazonry, 75, 76.
Substances used for writing on, 56.
Sun-worshippers, 48.
Supporters in Heraldic Devices, 79.
Symbolism: its Nature and Use, 20.
Symmetry as a Principle in Ornamental Art, 85.

#### Т.

Talbot Dog represented on Tile, 115. Tarsia Work or Tarsiatura, 10. Tau Form in Early Christian Work, 63. Temples of the Earth and Heaven at Pekin, 40. Temple of Solomon, Symbolic Ornaments, 41, 43. Temple of the Winds, Capital from, 121. Tertiary Colours, the Nature of, 101. Tertulhan on the Early Christian Church, 22. Tête-à-Clou, or Keilformig, 68. Thales and Pythagoras as Geometricians, 2. Thebes, Mural Paintings at, 30, 66; Tombs of 30, 85, 95. Thistle, a Symbol of Scotland, 46. Thoth, Ape dedicated to, 30; Ibis dedicated to, 27. Three: its Symbolic Meaning, 39. Tigris: its Representation in Assyrian Art, 48. Tinctures in Heraldry, 74. Tints of Colours: how obtained, 103. Tones and Lines of Colour: their Nature, 103. Tooba-tree of the Mohammedans, 45. Tortoise the Incarnation of a Deity, 26. Trajan, Column of, 100. Tree of Life, 45. Trefoil in Ornament, 14. Triangle in Design, 12. Trident, marked on Swansea Ware, 58; Symbol of Neptune, Trinity, Symbols of the, 32, 33, 39. Tri-symmetrical Forms, 86. Triton as a Device in Blazonry, 77. Tudor Rose, 10. Twelve: its Symbolic Significance, 39. Twining on Symbolism, 34. Typho, Ass, Hippopotamus, and Pig dedicated to, 31.

#### U.

Uig, Carved Chessmen found at, 127.
Ulphilas, Writings of, 57.
Unicorn as a Device in Blazonry, 77.
Unsymmetrical Character of Chinese and Japanese Work, 89.
Urbino Ware, 19.

# V.

Vagaries of Early Heralds, 73, 75.

Vair in Armorial Bearings, 75.

Variation as a Principle in Ornament, 89, 91, 126.

Venice, Mosaics of St. Mark's Church, 33.

Venus of Classic Mythology, 48.

Vert in Blazonry, 74.

Vesica Form in Ornament, 14, 51.

Vestal Virgins clothed in White, 37.

Vine, a Symbol of Bacchus, 42; Foliage of, an Example of Bi-symmetry, 86; in Christian Art, 42, 43; on Jewish Coin, 41; Symbolic Meaning in Old Testament, 42.

Virgin Mary, Lily dedicated to, 43; Snowdrop dedicated to, 37, 43.

Vishnu, Incarnations of, 52,

Vision, of Ezekiel, 31; of St. John, 31, 41.

Vulture and Hawk sacred to Re, 27.

Vulture Symbol of Nisroch, 27.

#### W.

Watchman Beetle, 26. Water-bean, Indian, 44. Water: how symbolised in Ancient Art, 48. Waved Line in Ornament, 14. Wax as a Substance for Writing on, 56. Weathercock, 28. Wedding-rings, Inscriptions on, 65. Westwood on Celtic Art, 4. Wheel or Rose Windows, 14. Whirlpool or Gurge in Heraldry, 17. White Hart as a Badge, 78. White: its Symbolic Significance, 36, 37, 38. Whit-Sunday, Origin of the Name, 37. Wilkinson, on Colour and Taste, 101; Egypt, 63; Juxtaposition of Green and Purple, 97; Naturalism and Conventionalism, 113. Wilson, Dr., on Colour-blindness, 105. Winckelman, on Colour in Classic Art, 102; on Egyptian Mosaic, 9. Wisdom, Owl the Bird of, 27. Wiseman, "Lives of the Last Four Popes," 57. Wolf, in Blazonry, 76; Emblem of Cruelty, 30; of the Capitol, 30. Wood as a Substance for Writing on, 56. Worman, "Analysis of Ornament," 88; Naturalism and Conventionalism, 112; Symmetry, 88. Wreath or Crown as Symbols, 51. Writers of Antiquity on the Potter's Art, 85, Wyckliffe on the Evangelistic Symbols, 31. Wyvern in Blazonry, 77.

## X.

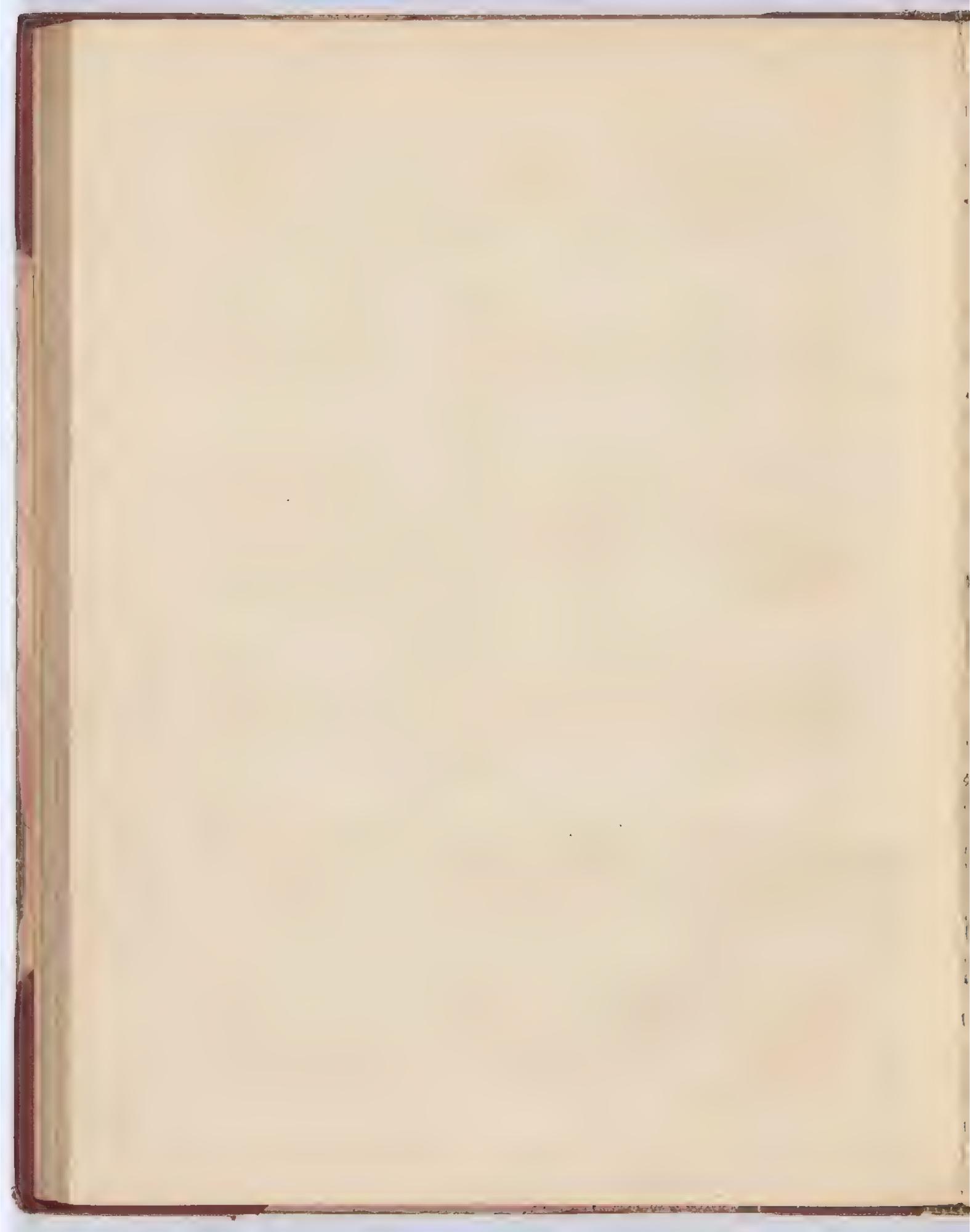
"Xmas" as an Abbreviation of Christmas, 63.

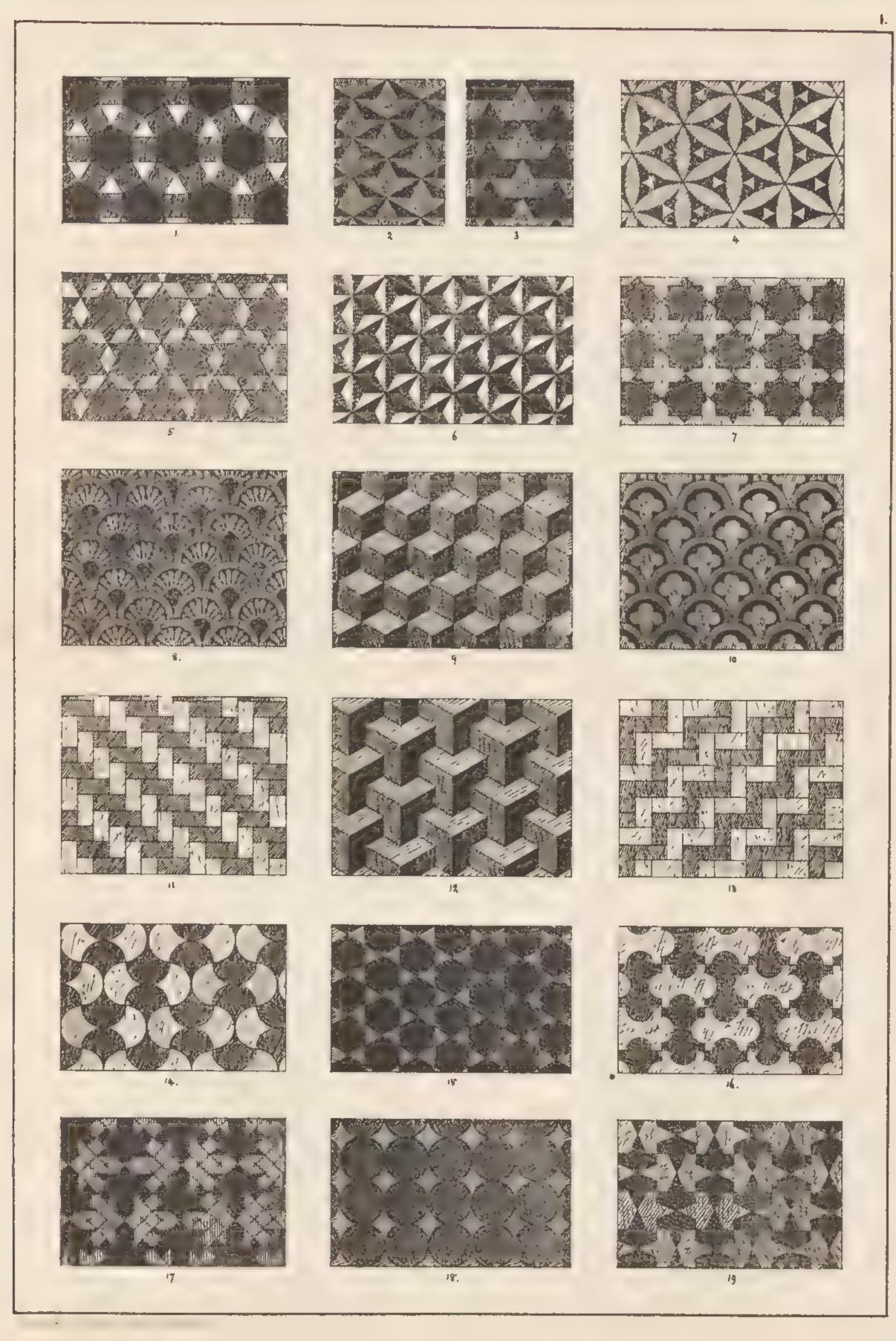
## Υ.

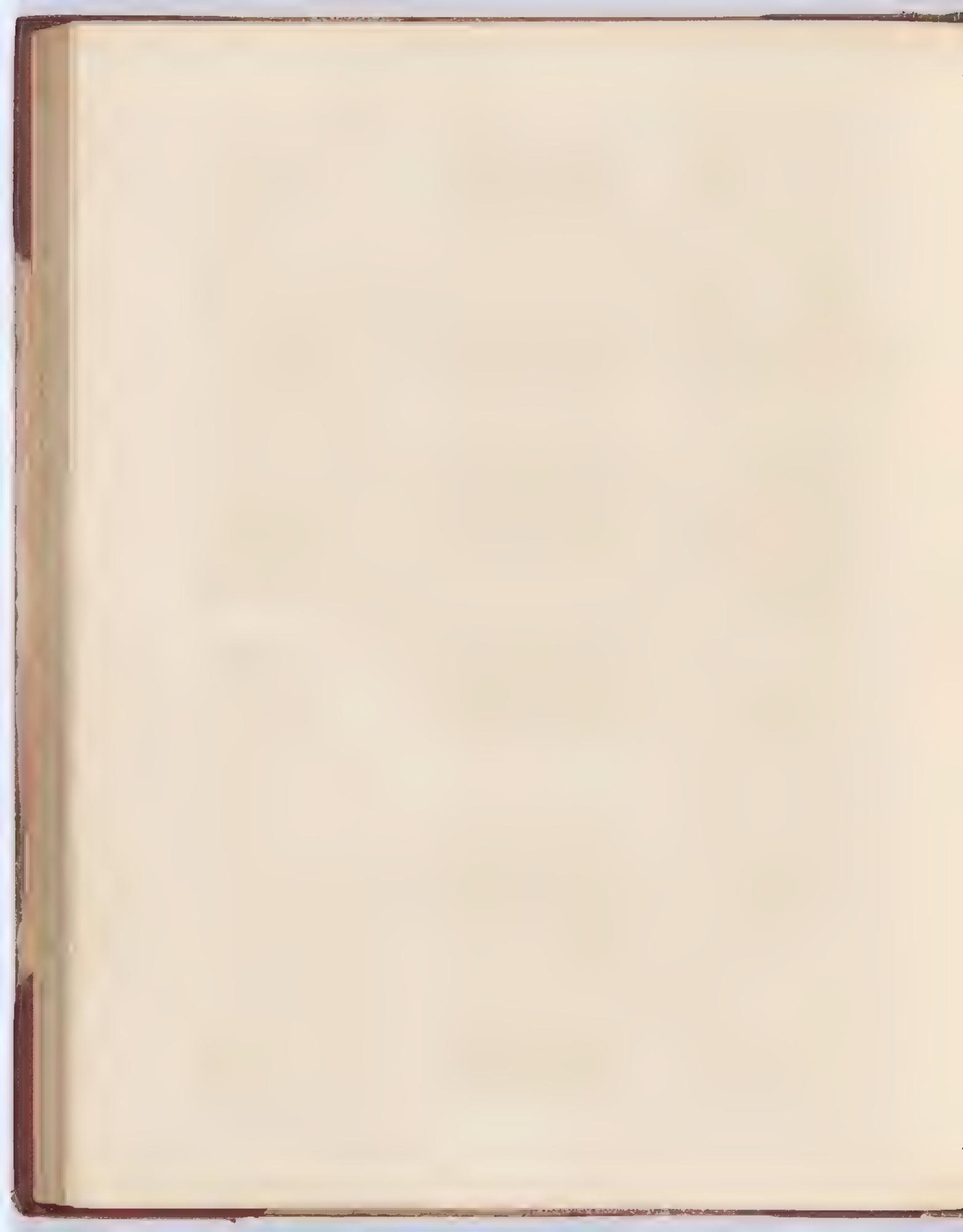
Yellow: its Symbolic Significance, 36. Yorkist Rose, 21.

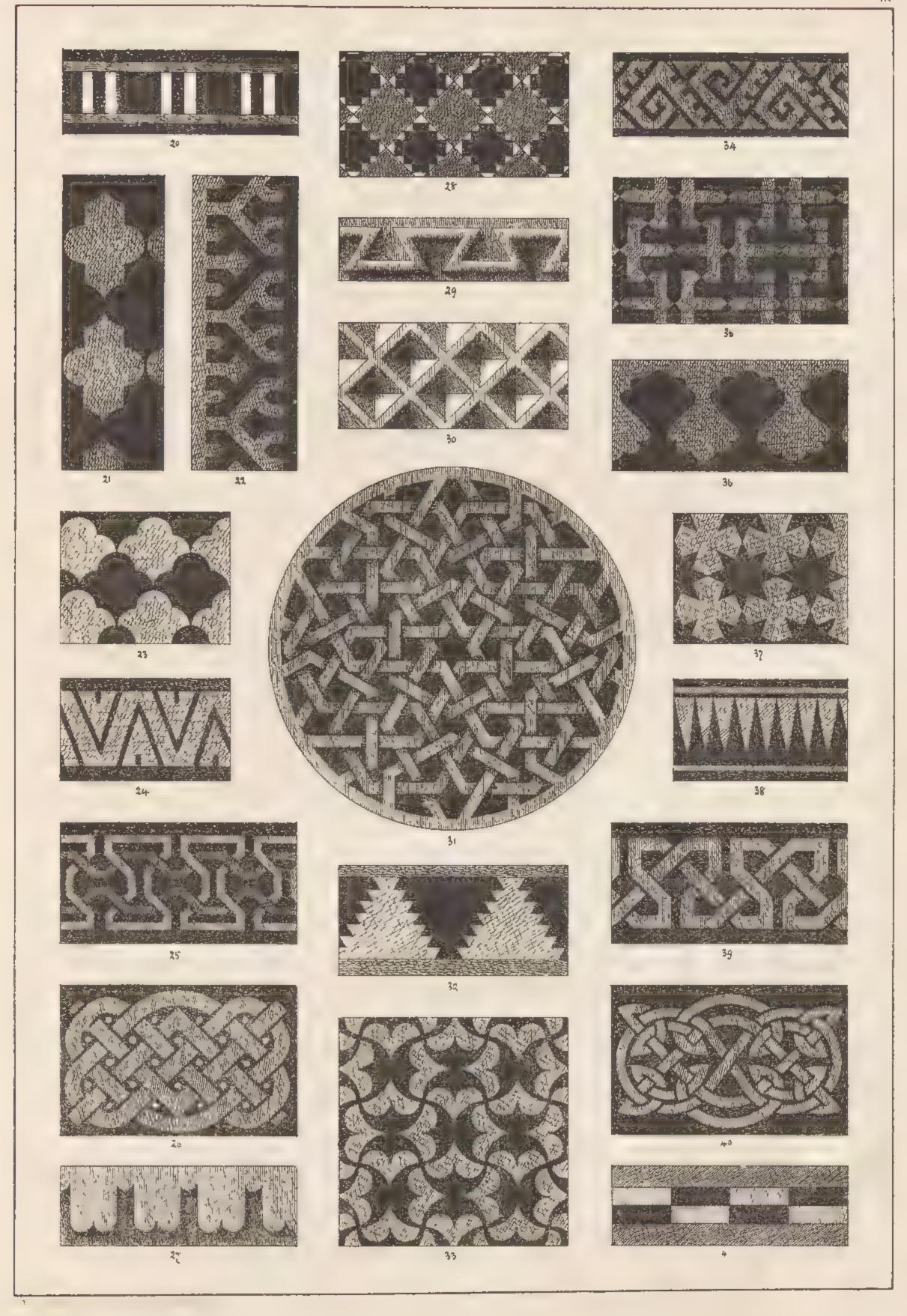
#### $Z_{\cdot}$

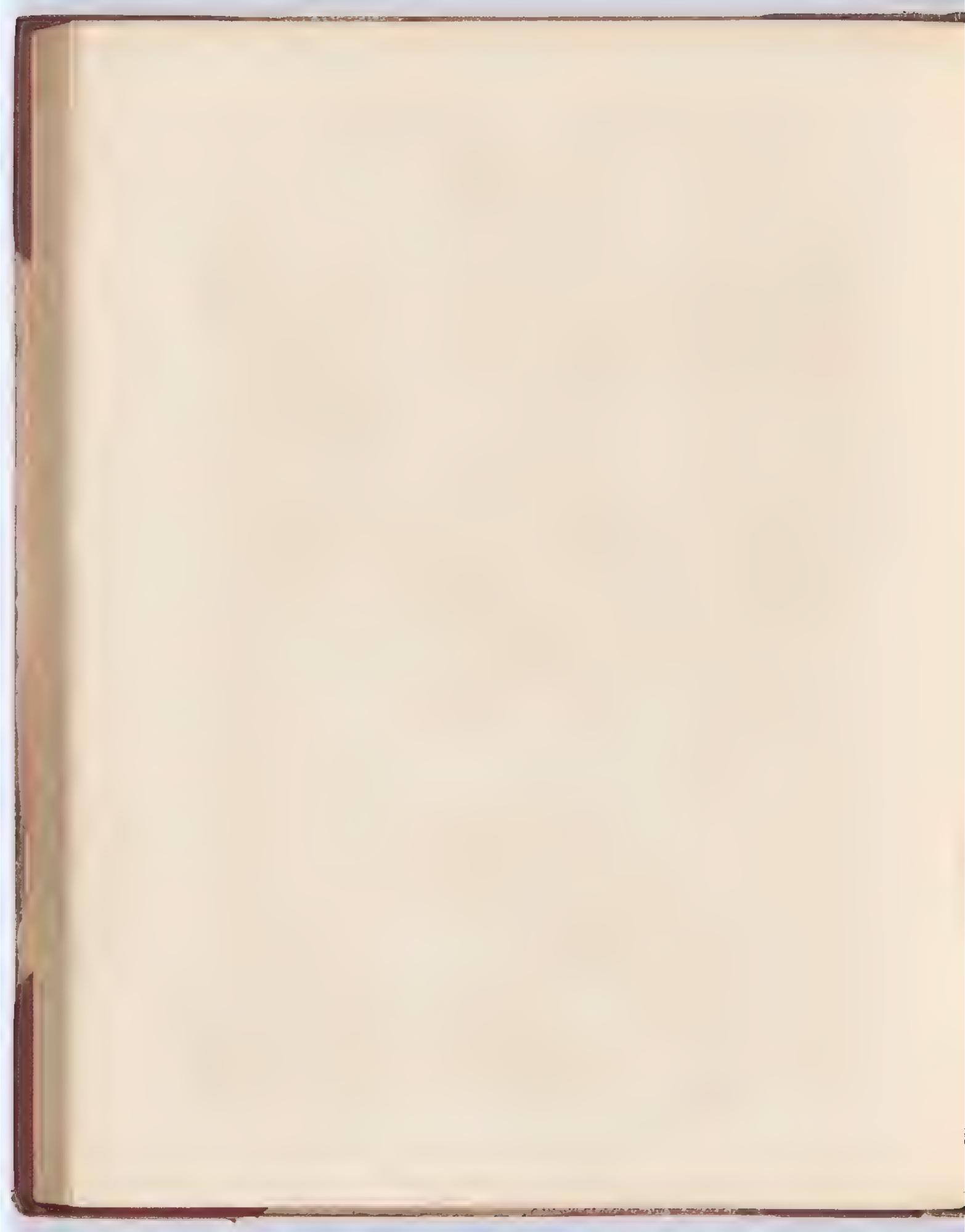
Zahn's Work on Pompeii, 87, 93. Zeuxis, Anecdote of, 21.

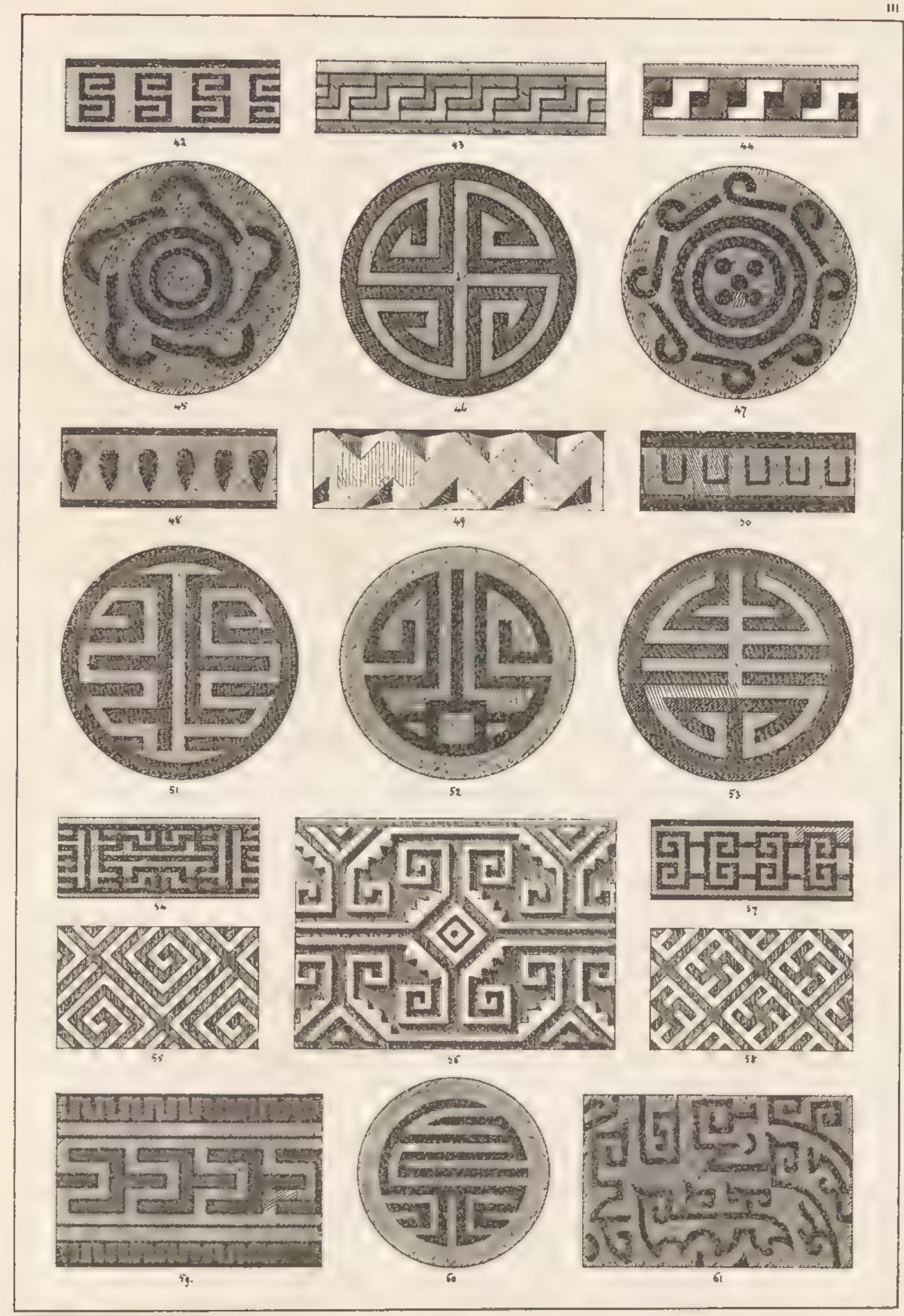


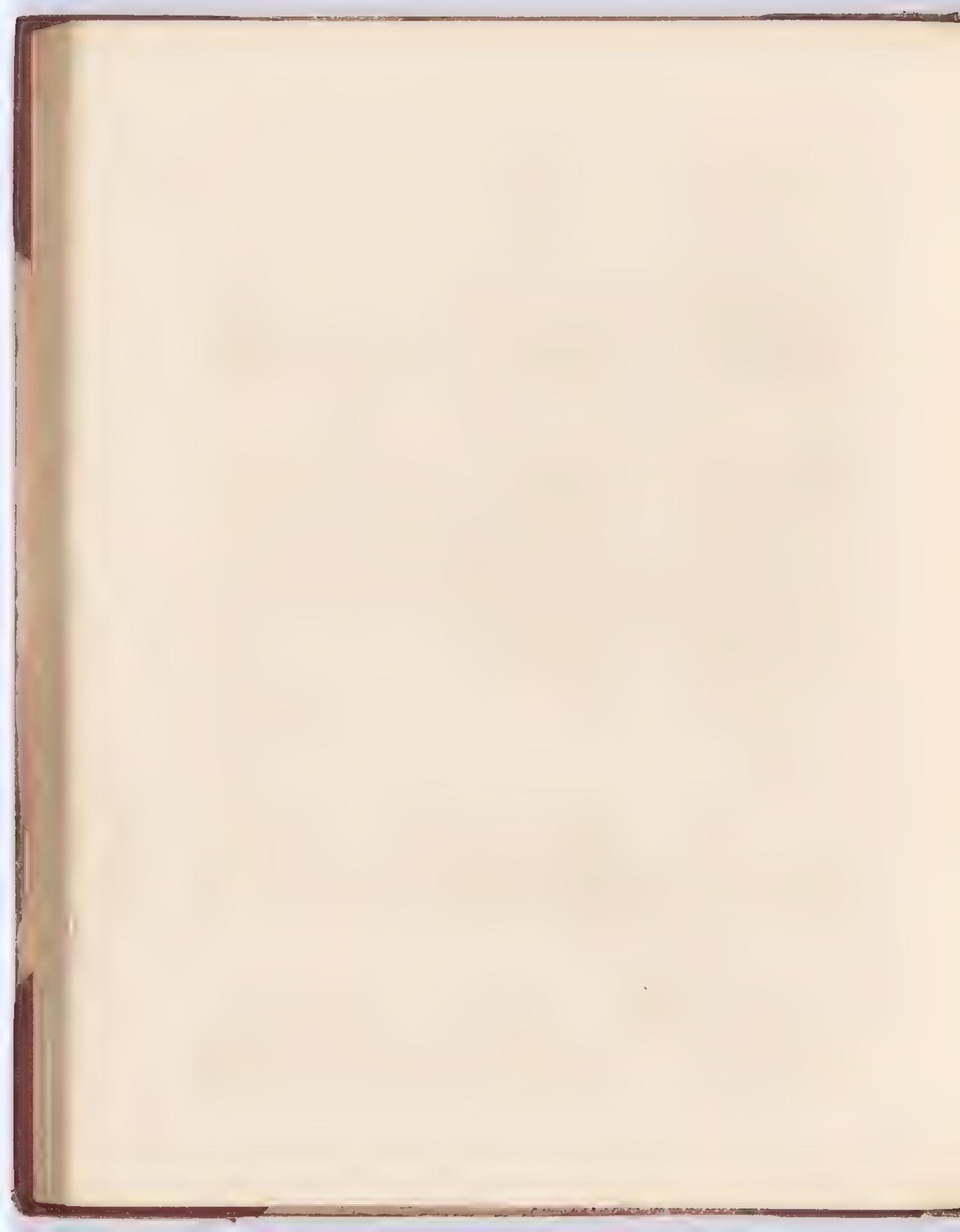


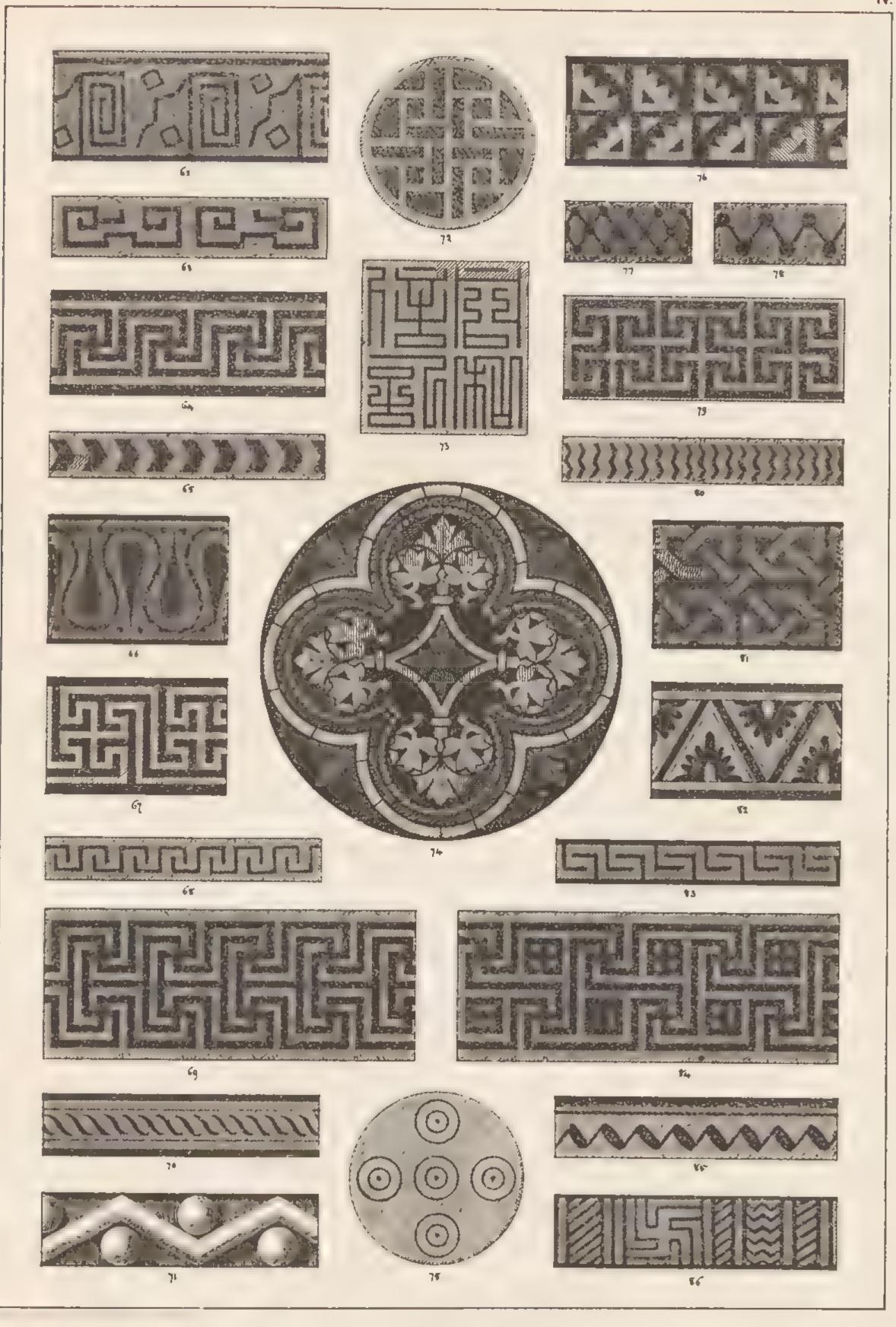


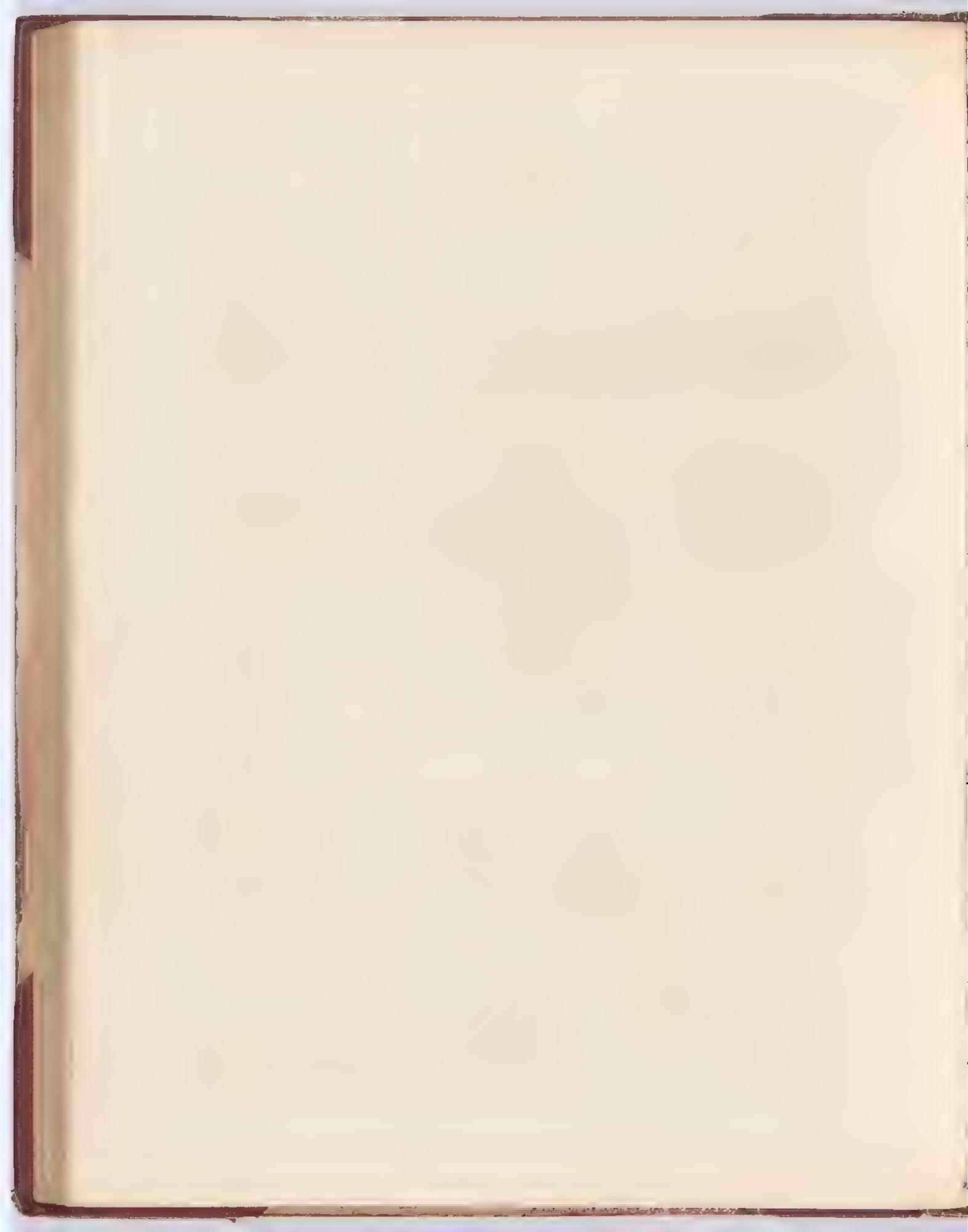


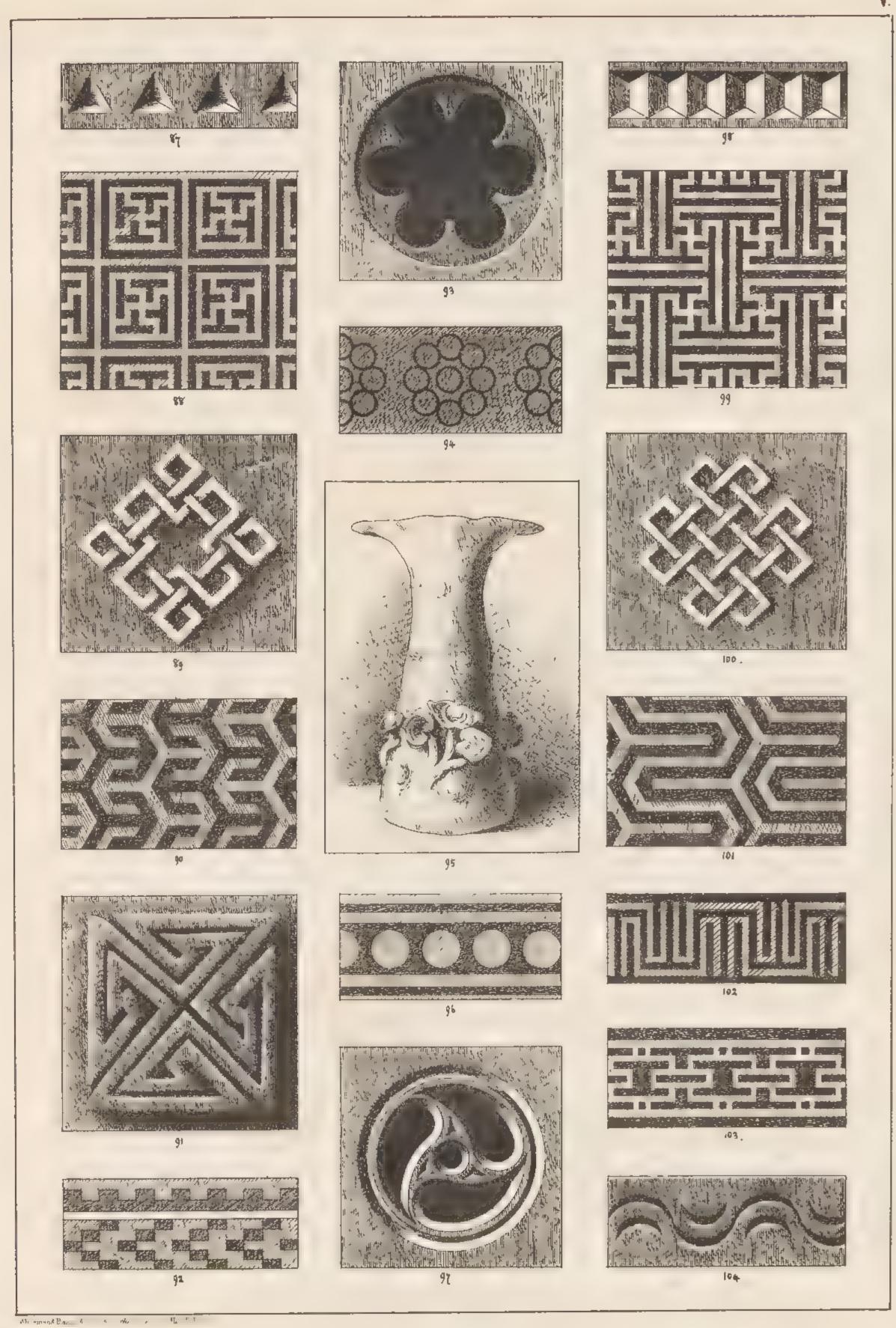




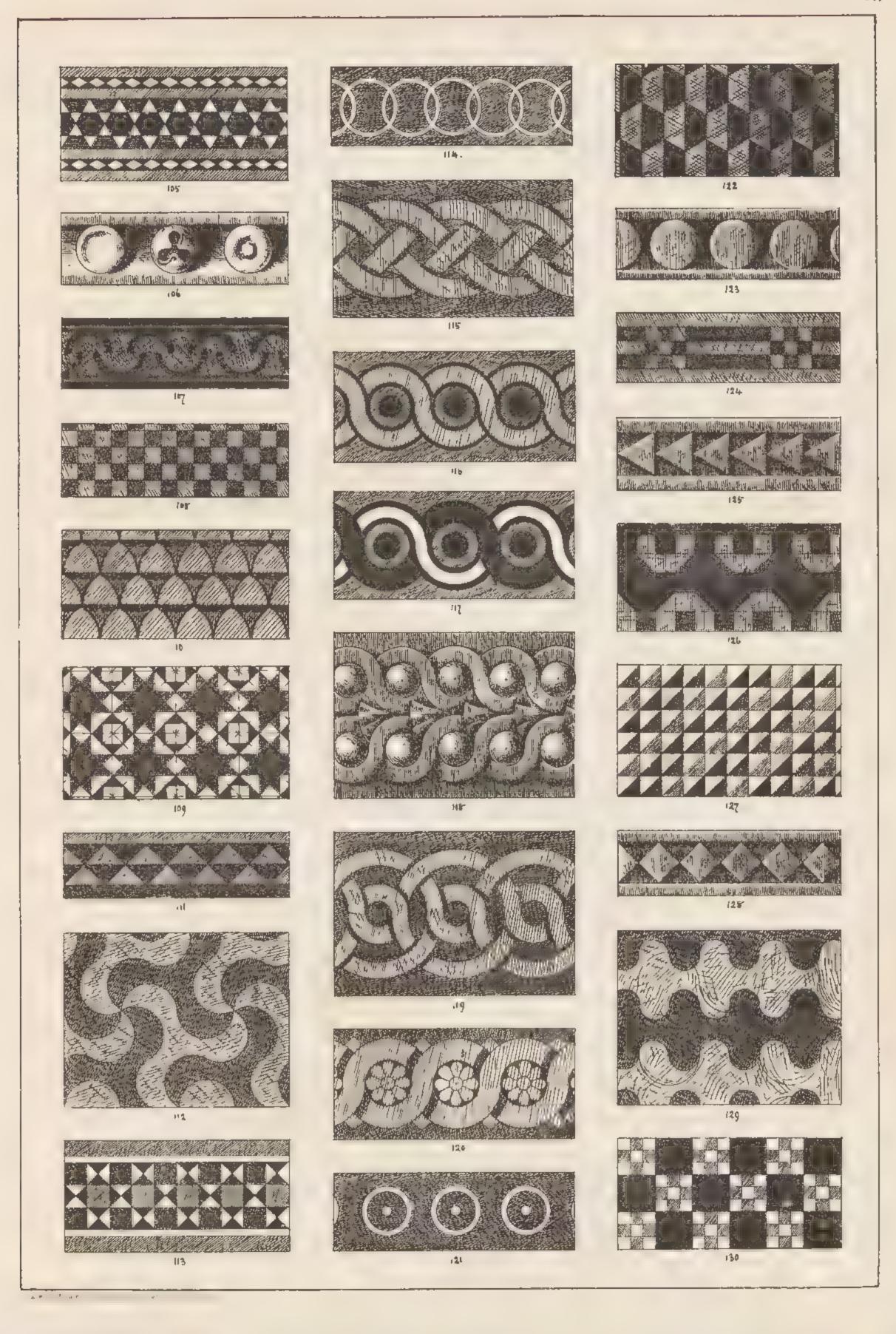


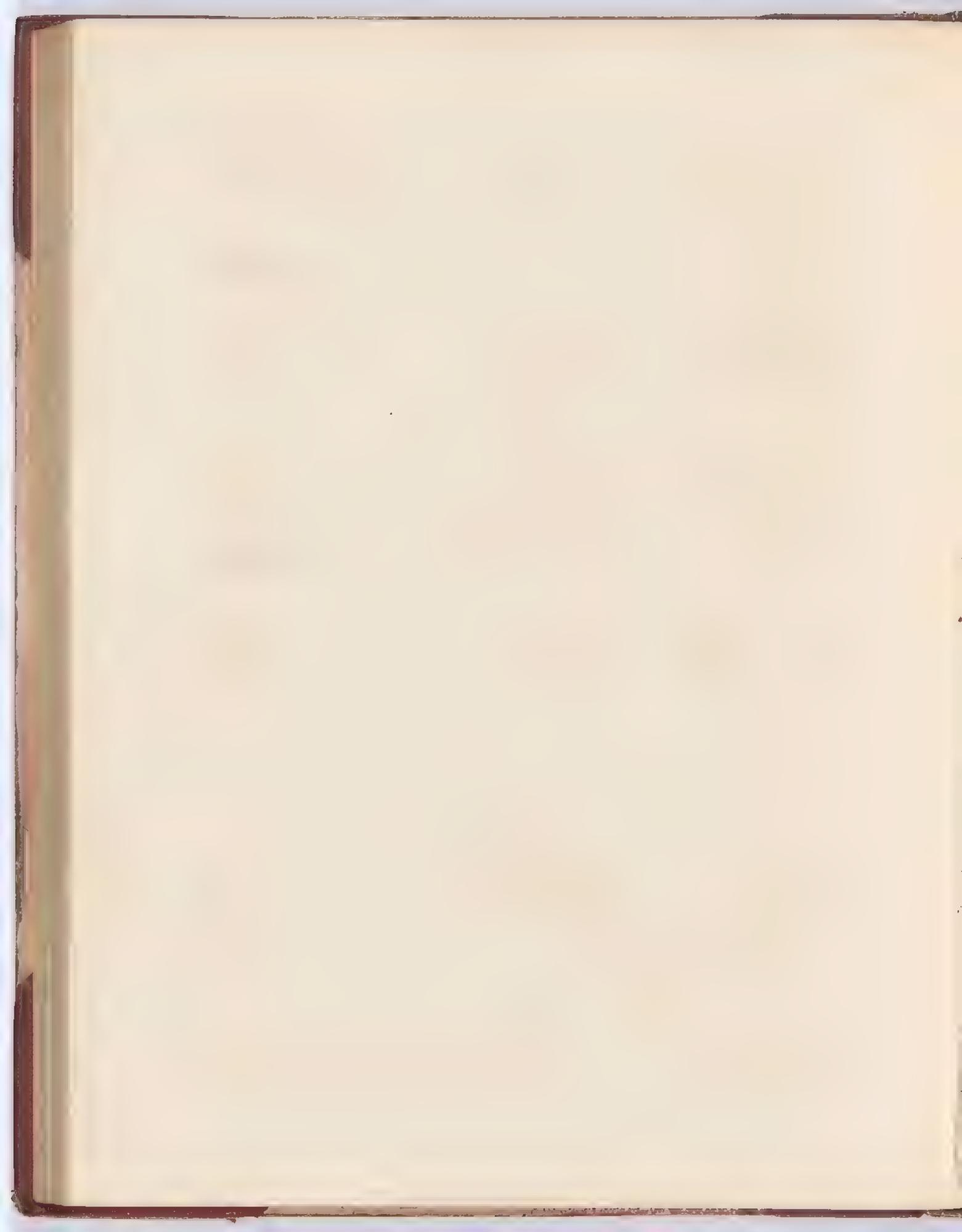


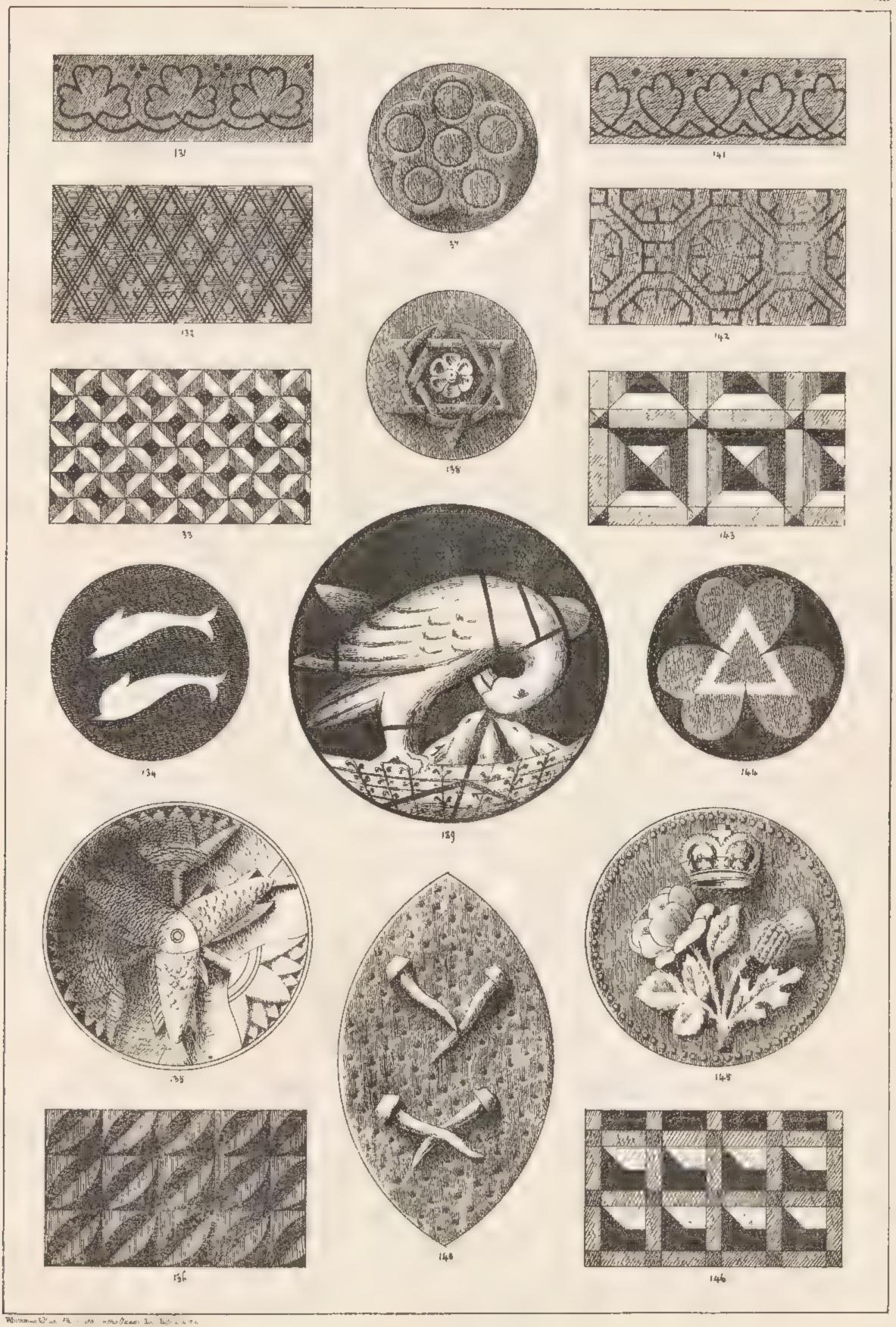


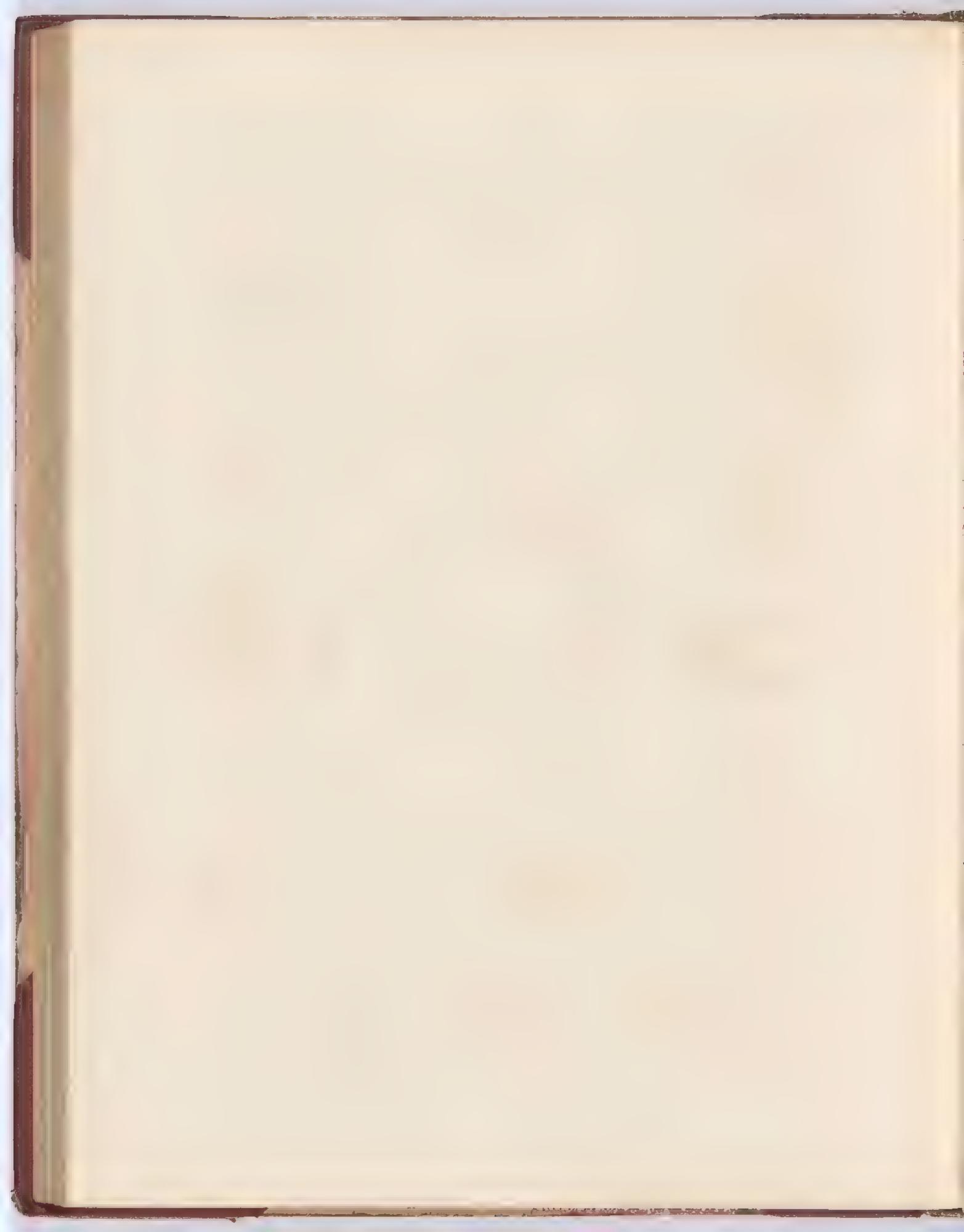




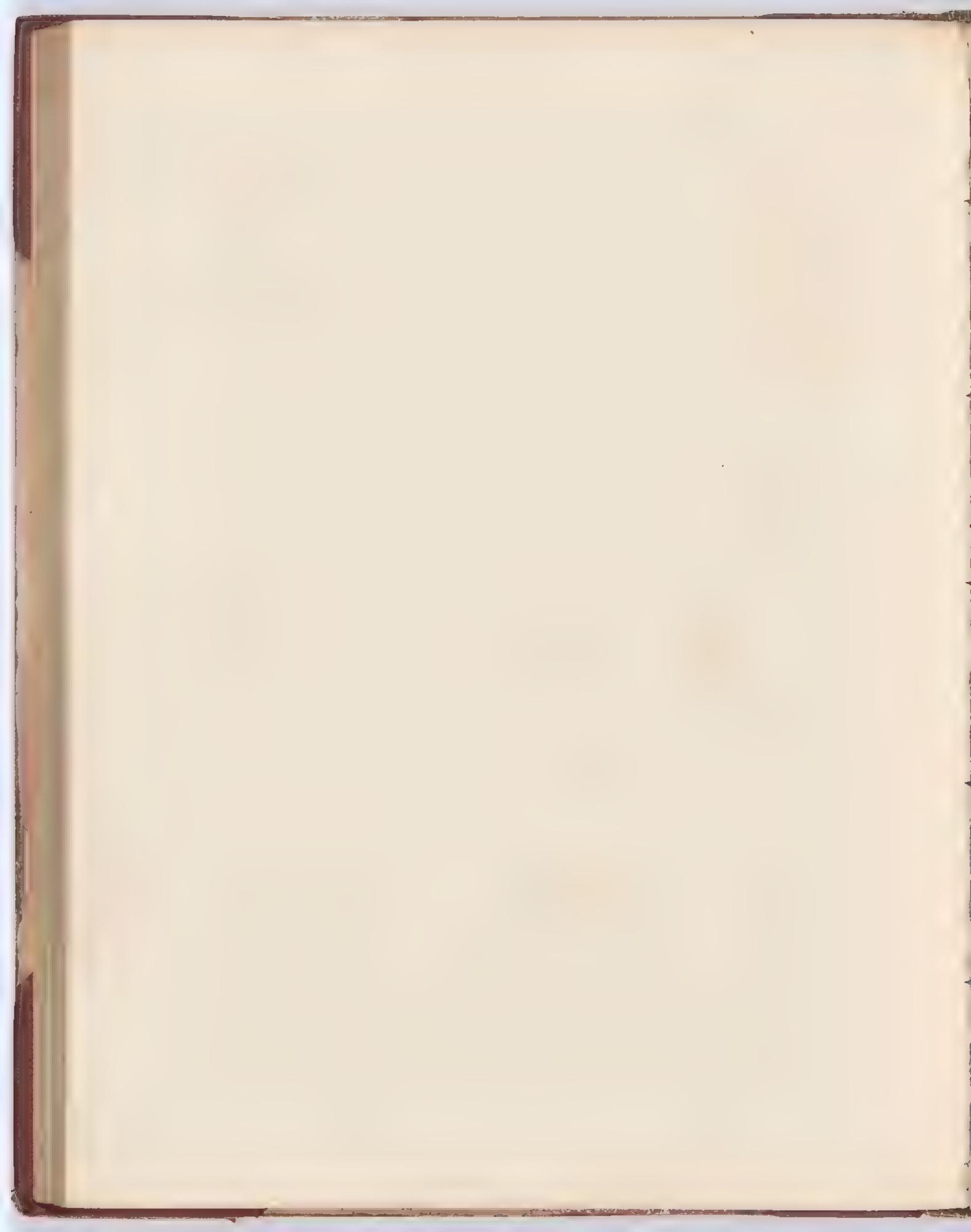


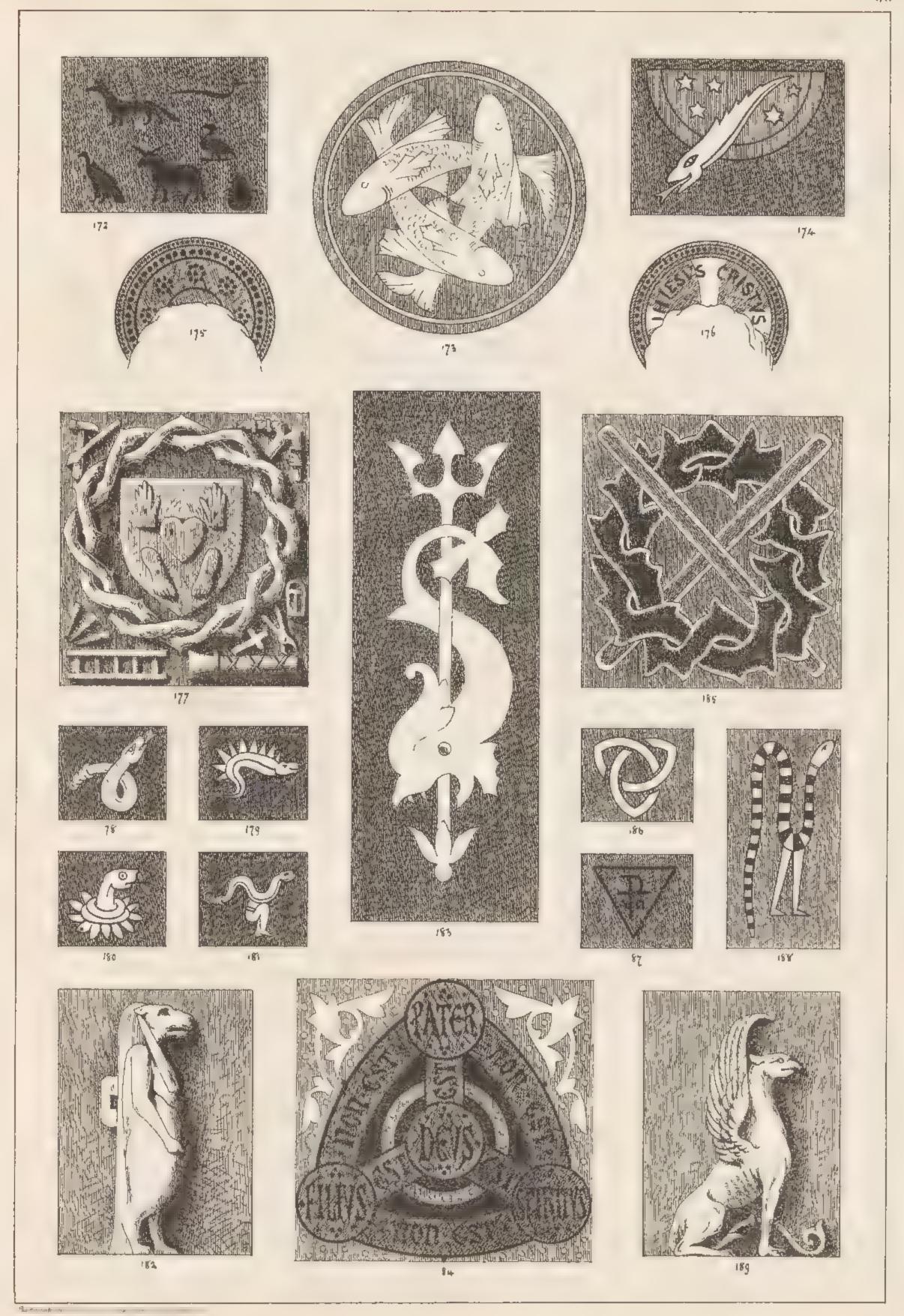


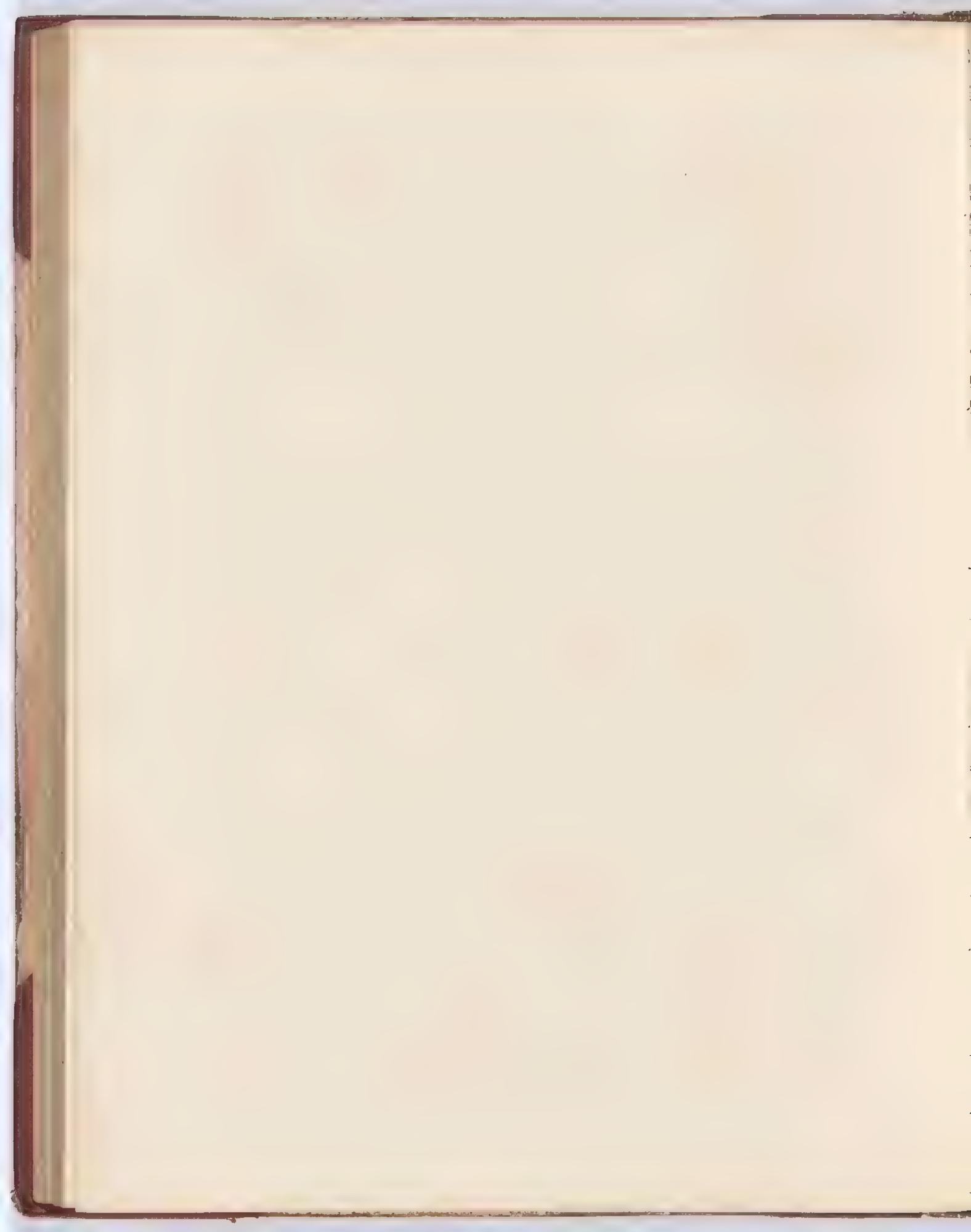


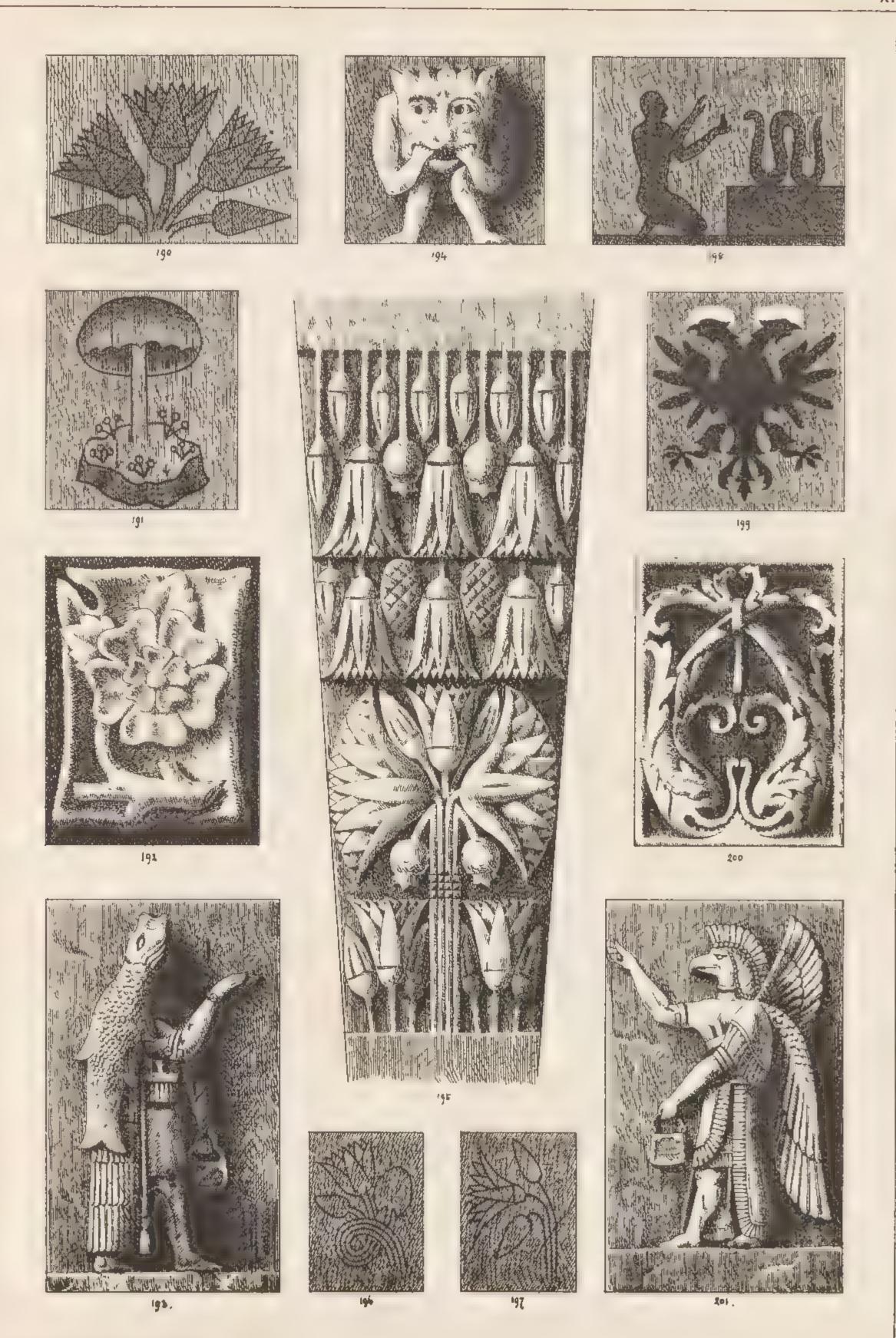


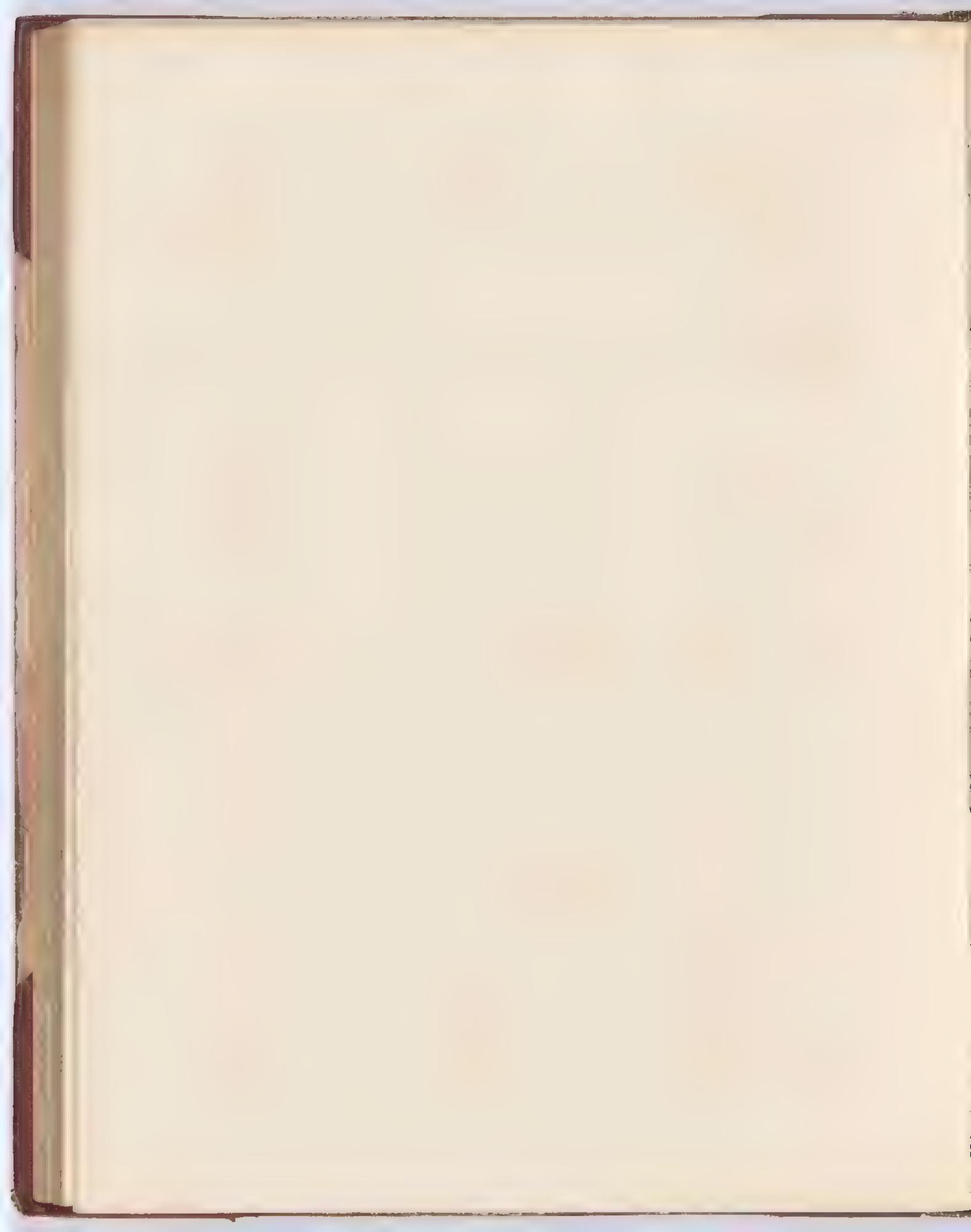
















209

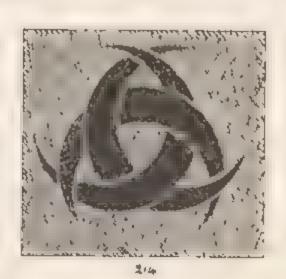


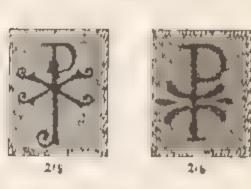








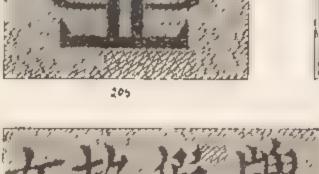


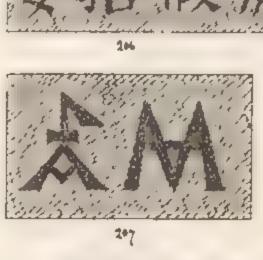






204

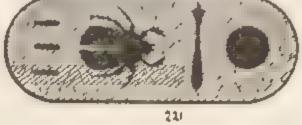


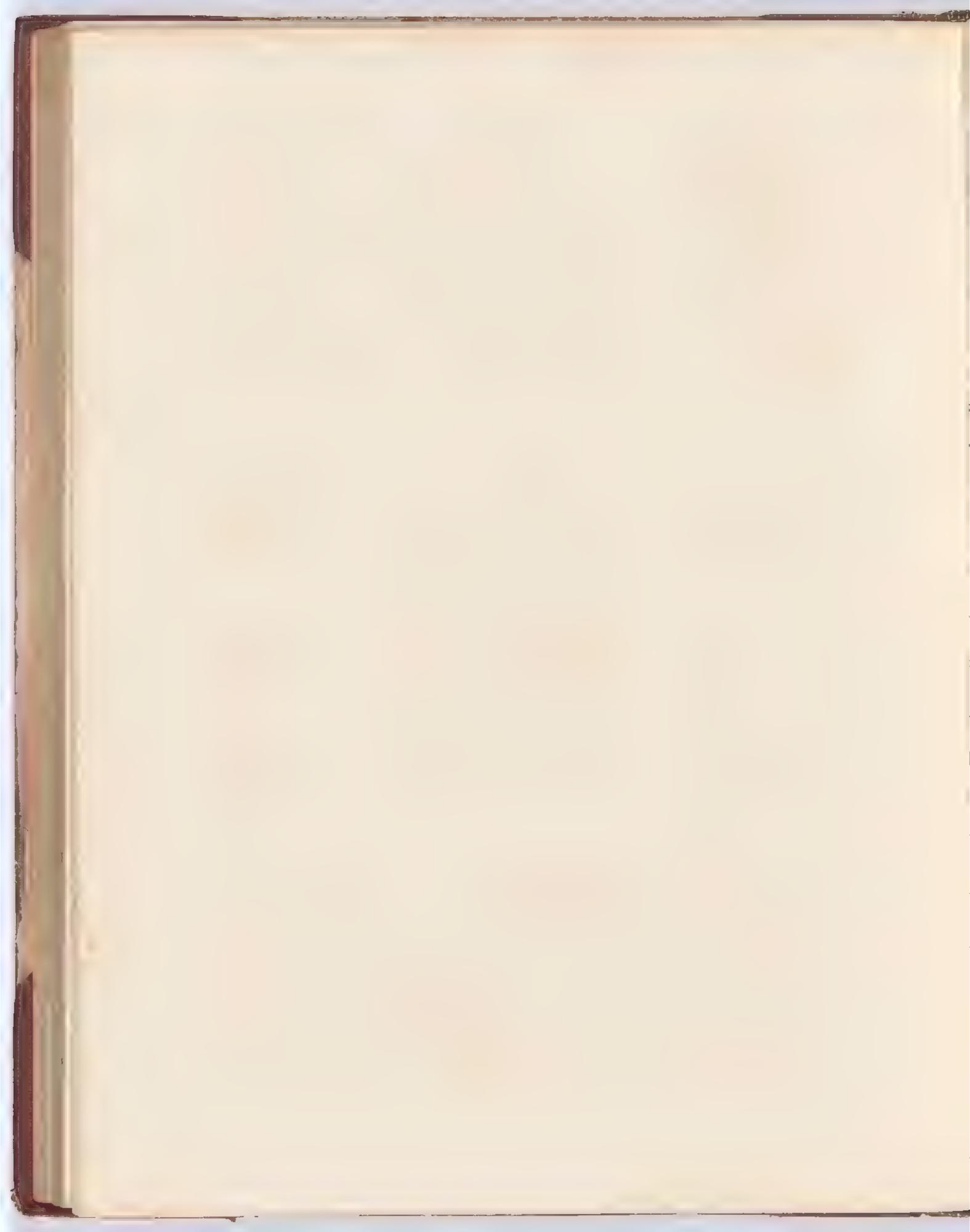




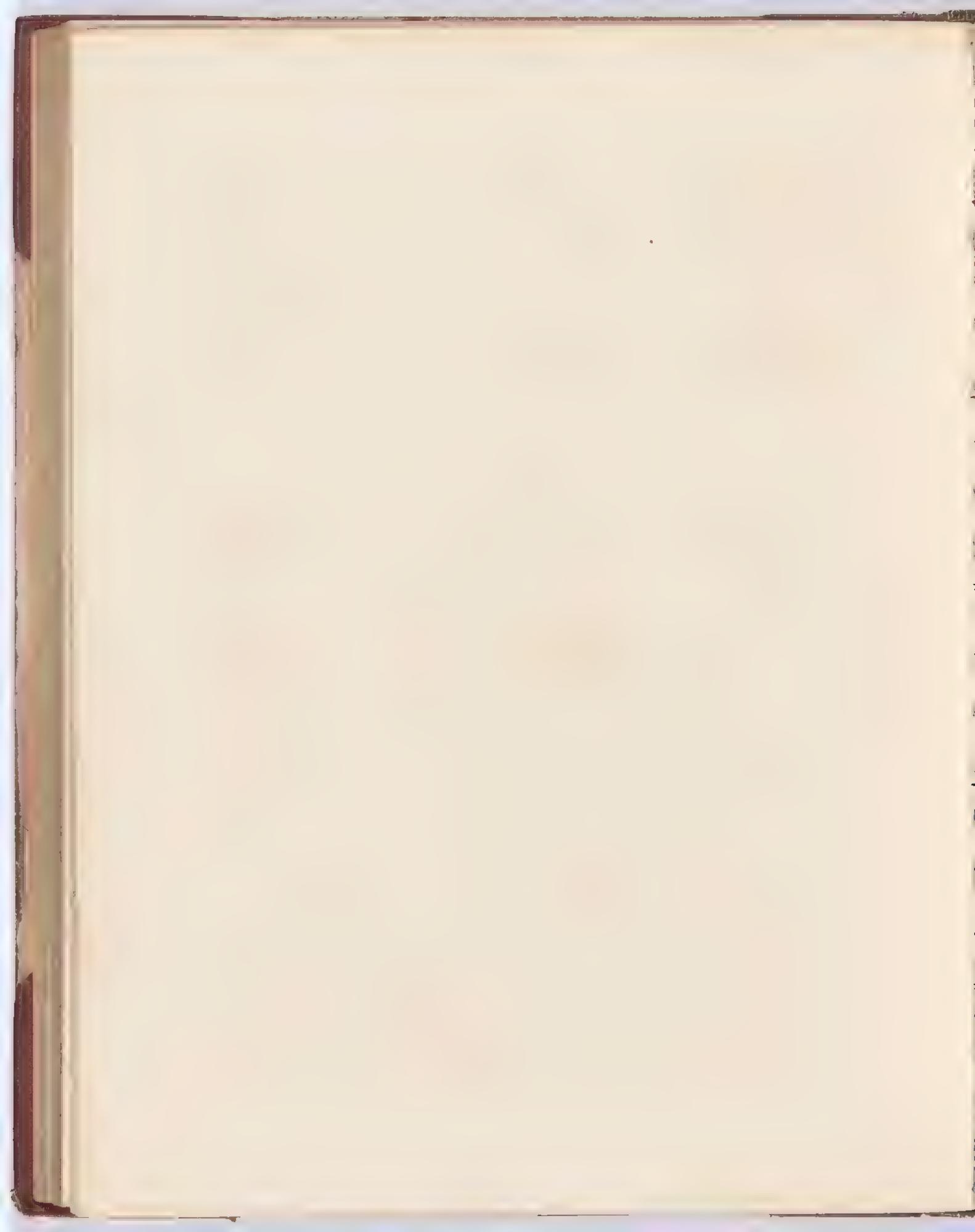


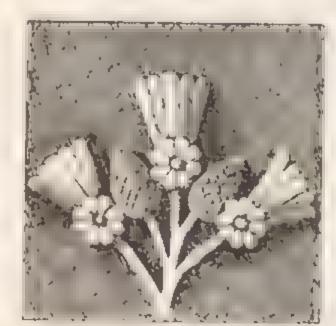




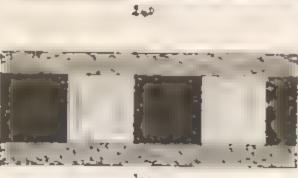


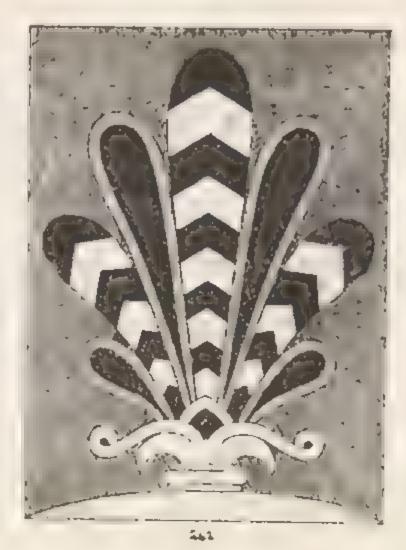


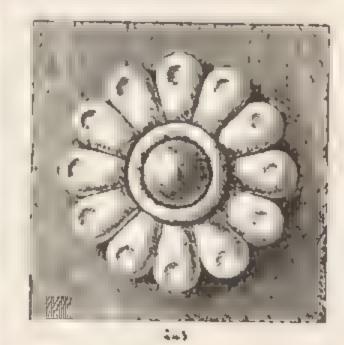




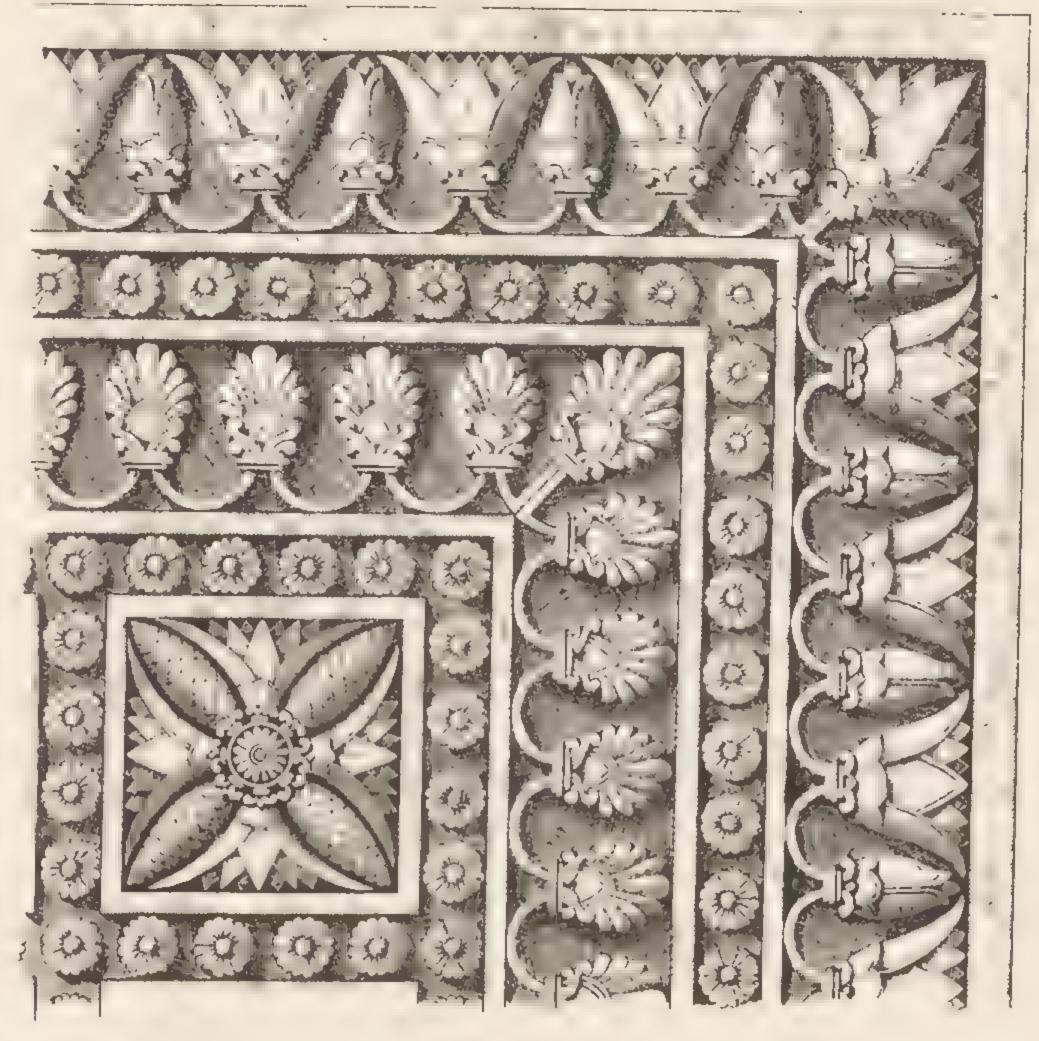


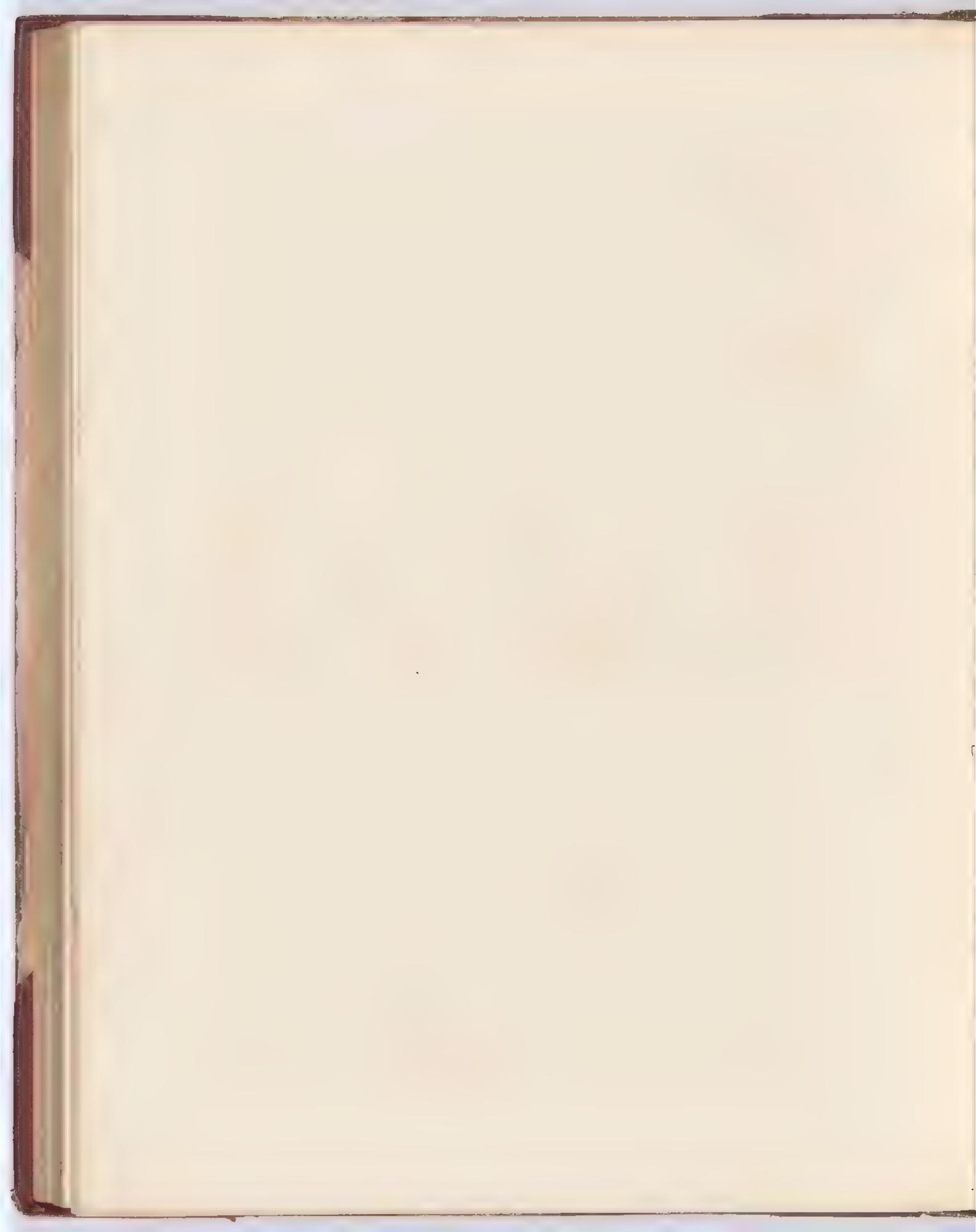






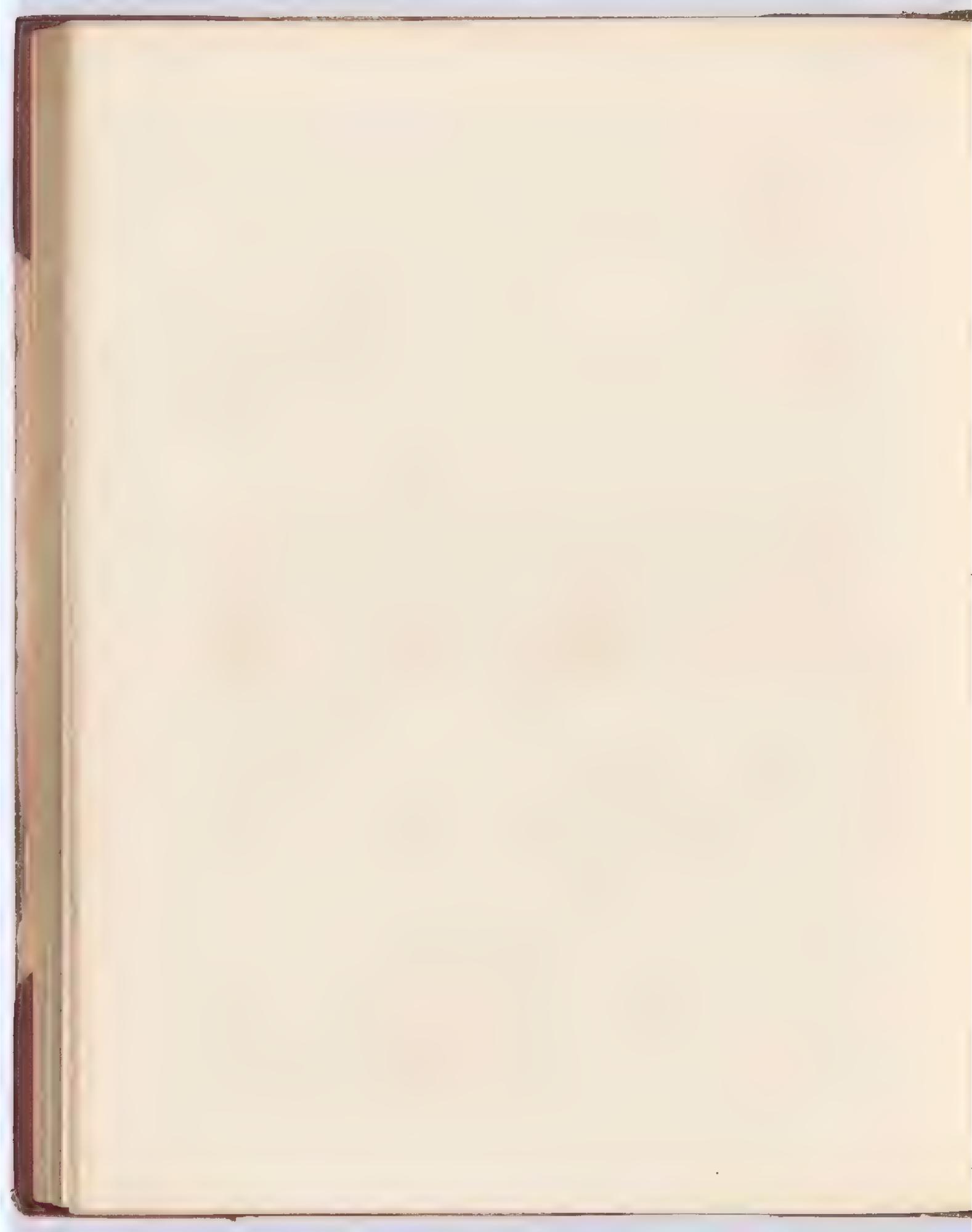


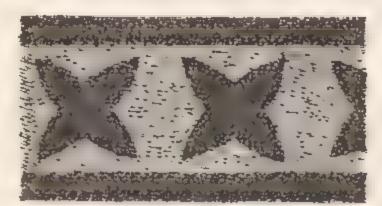




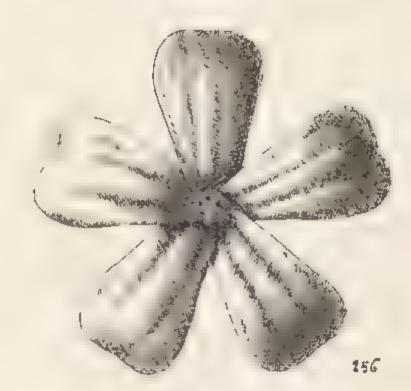


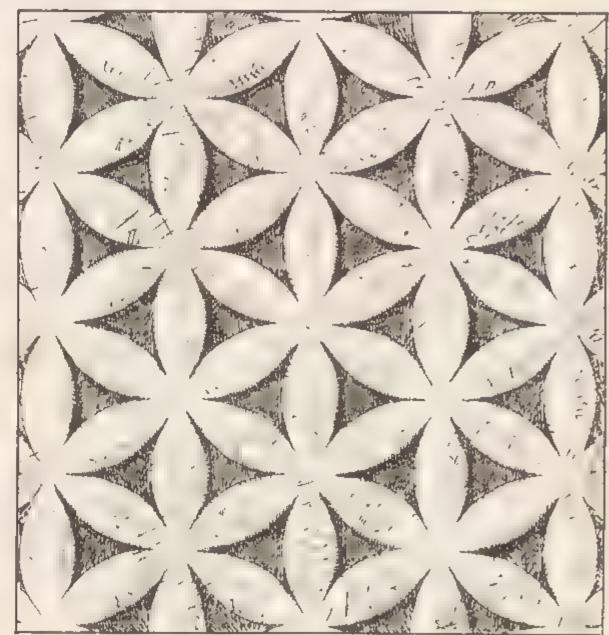
Whatmand Dass, Photo Exito to the Queen 236 High Holborn.



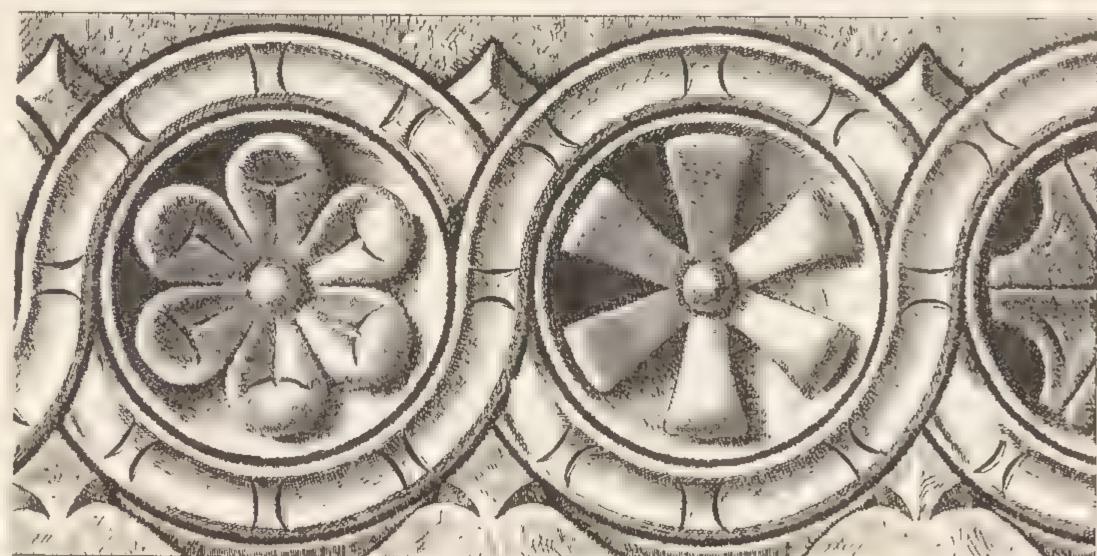


255

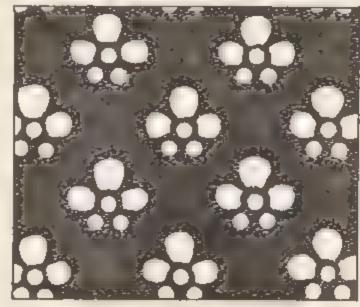




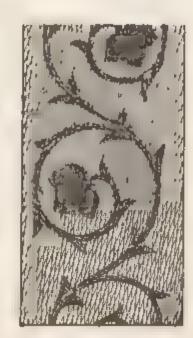
25%



25%



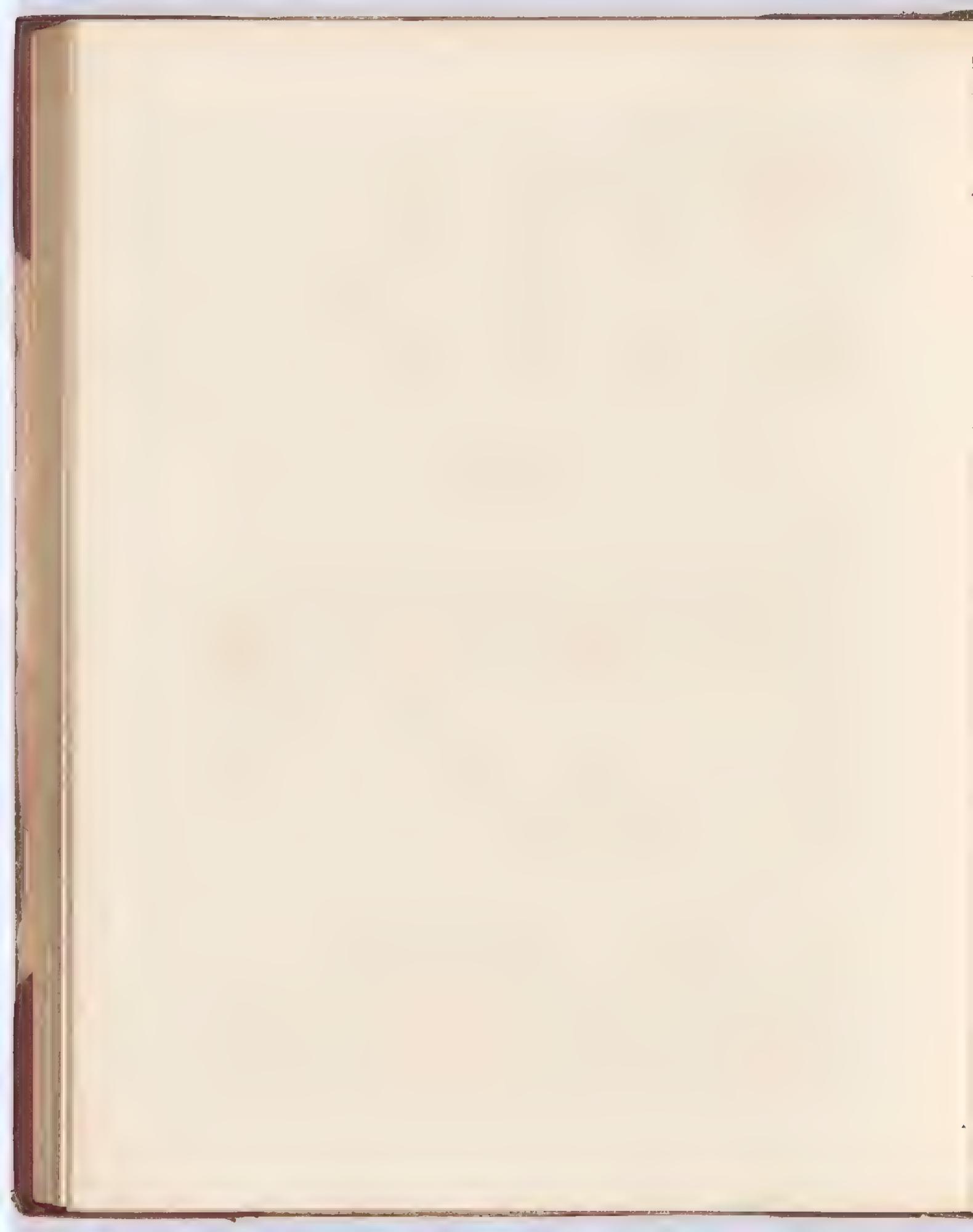
259

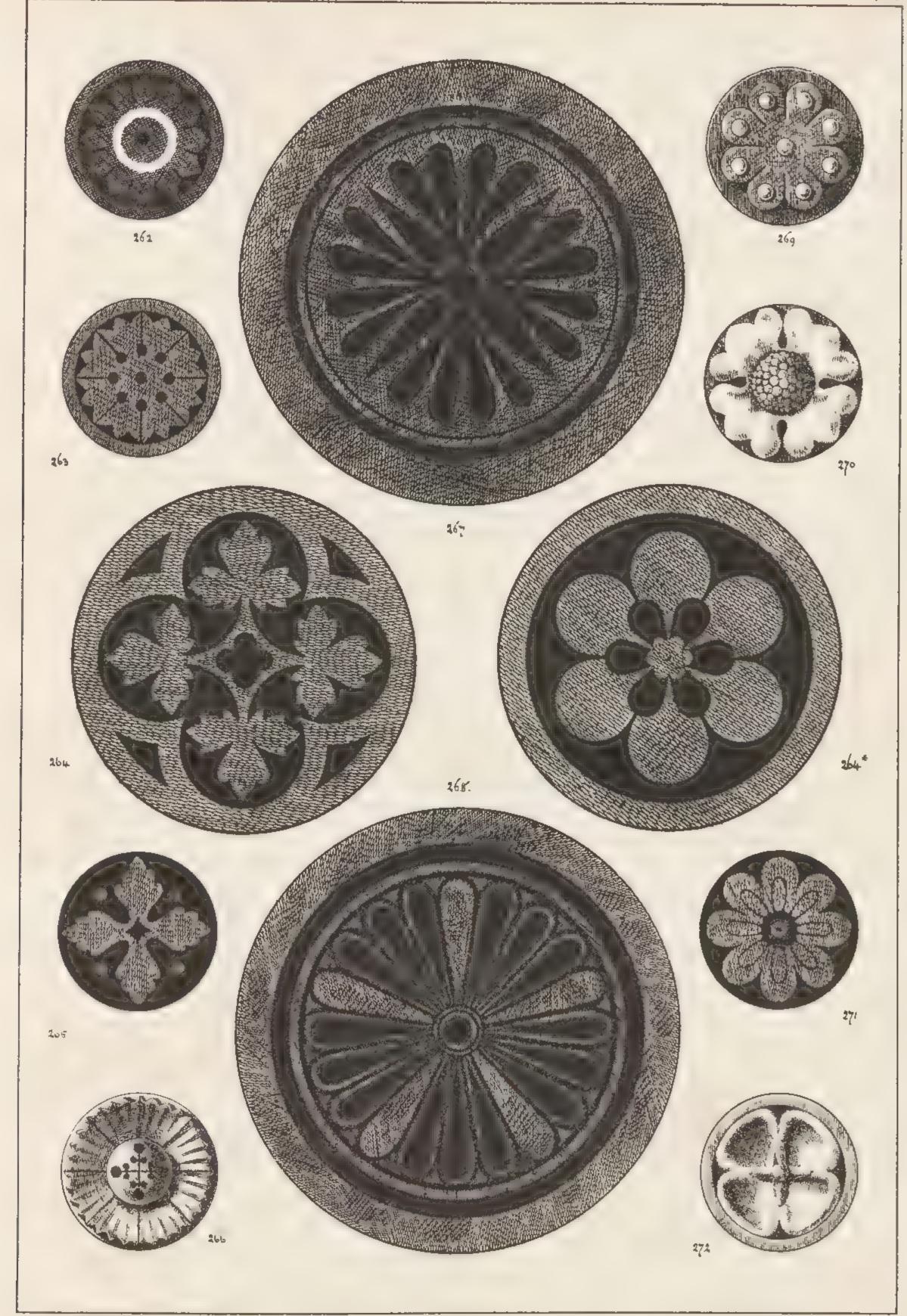


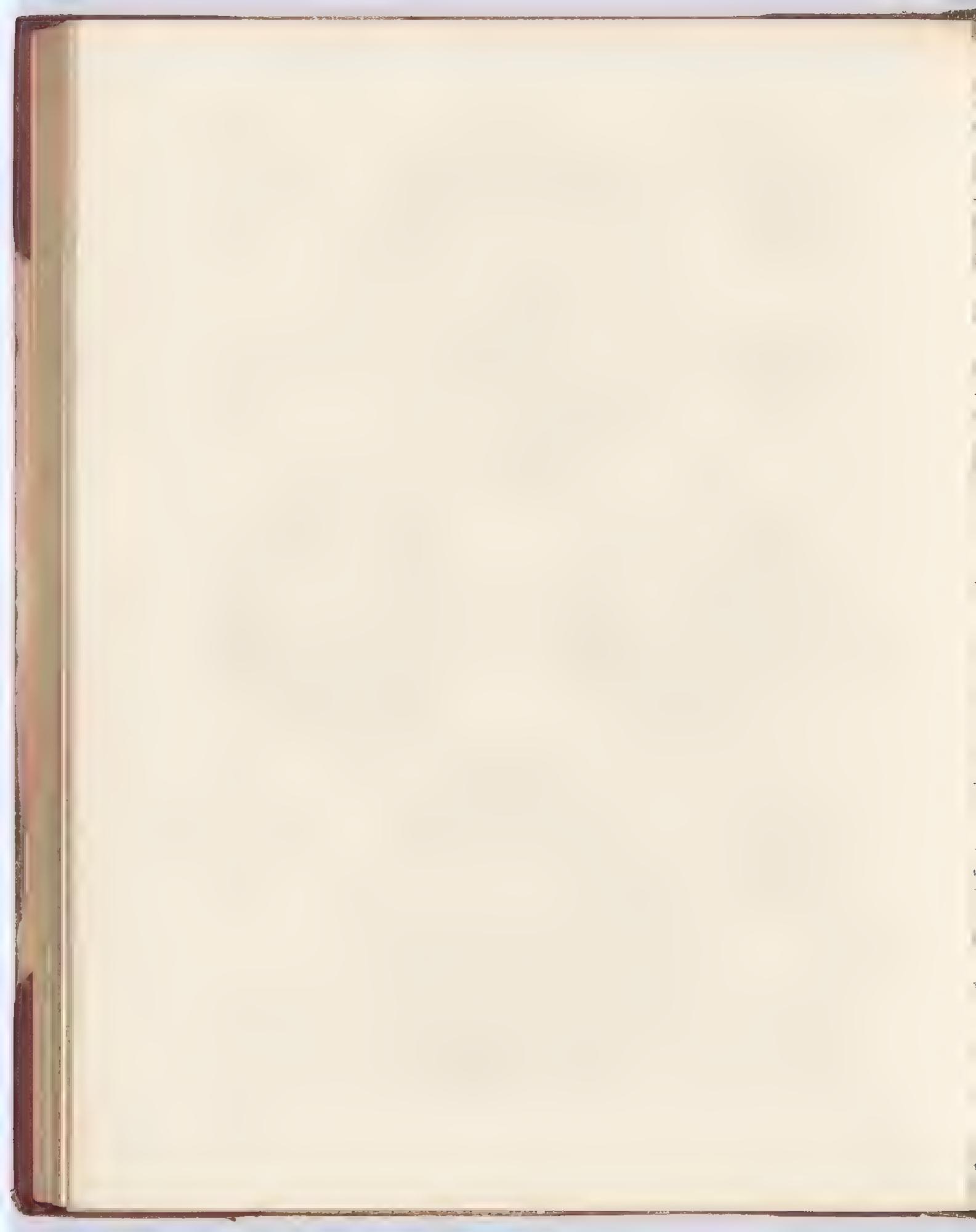
260

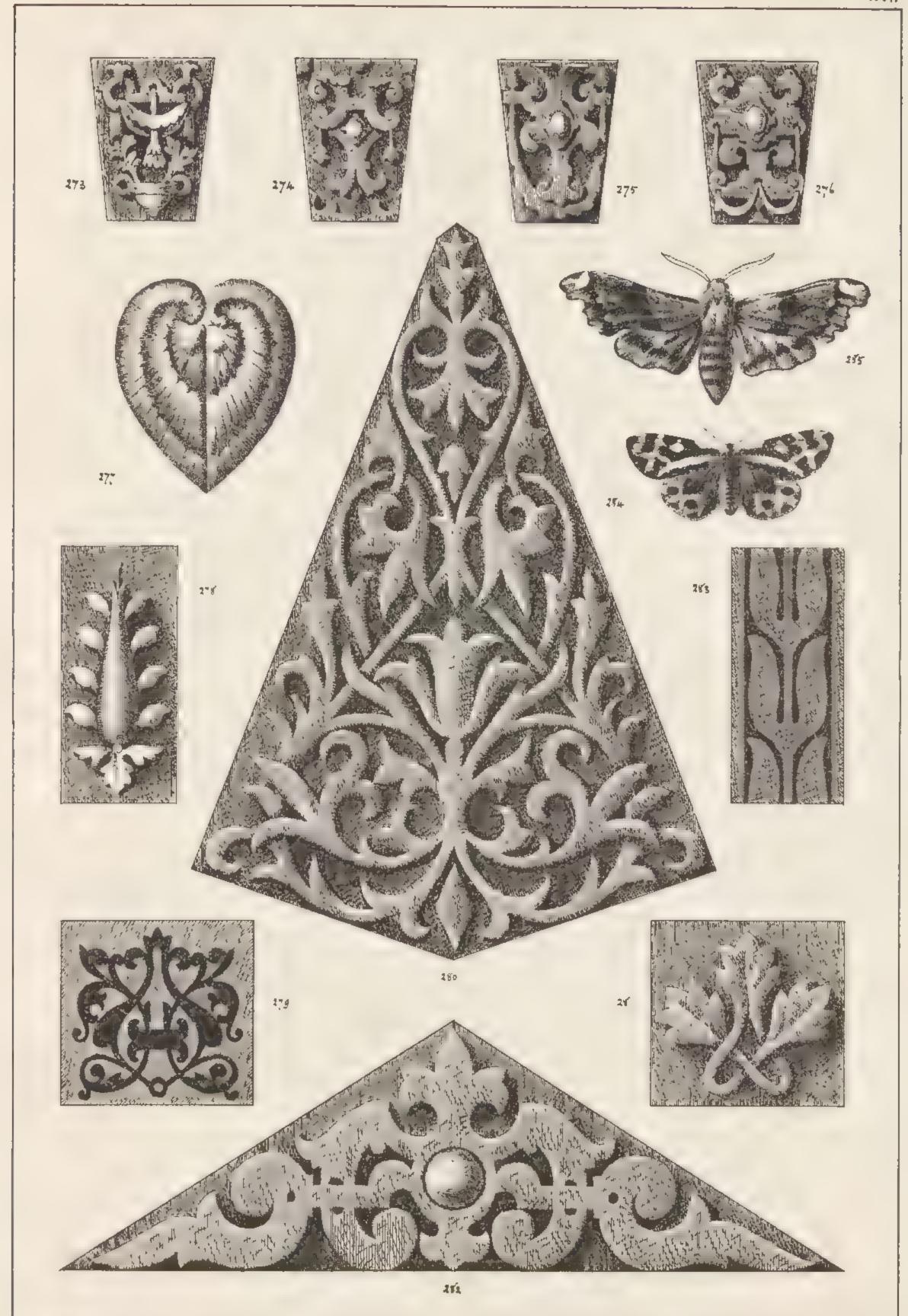


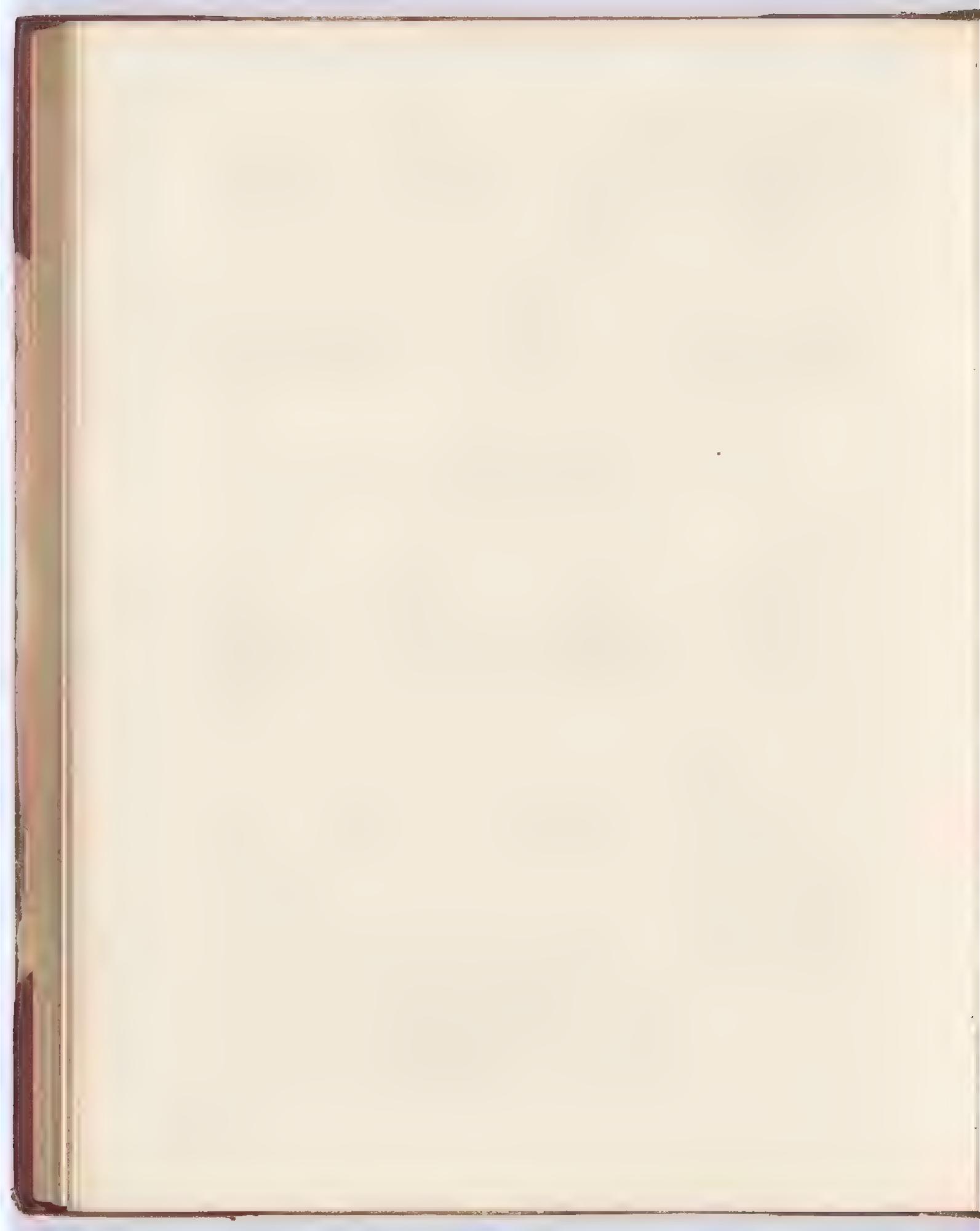
461

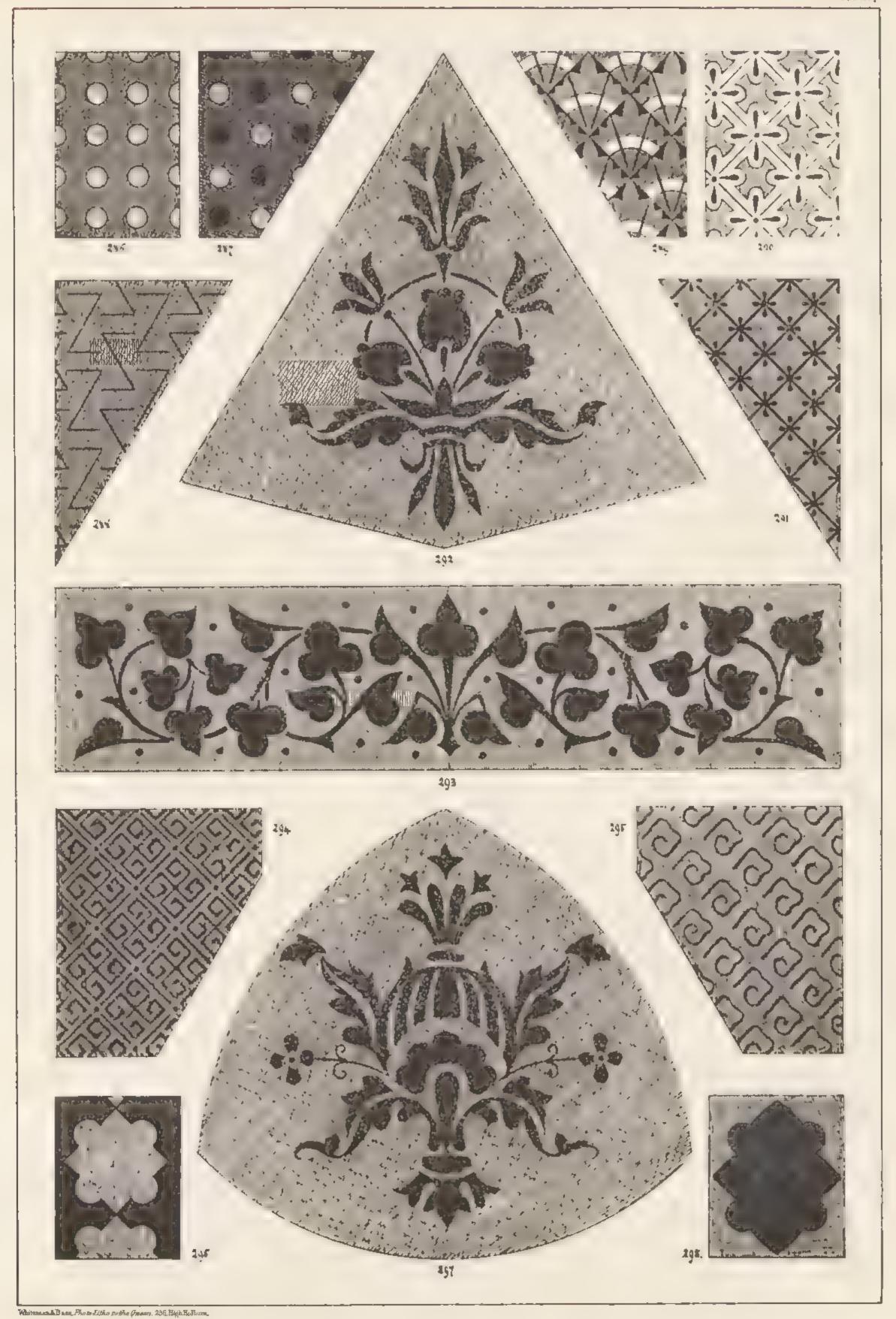


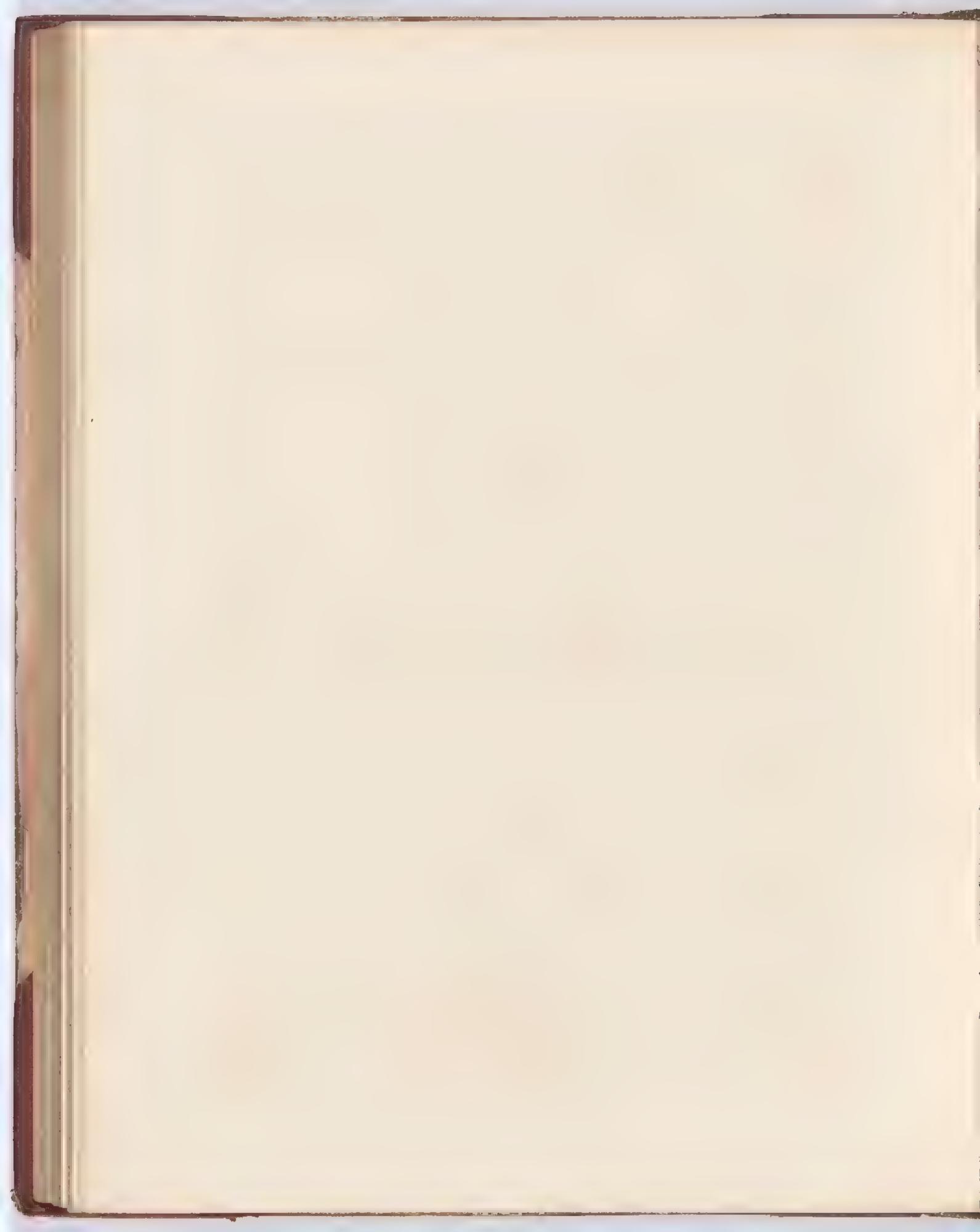


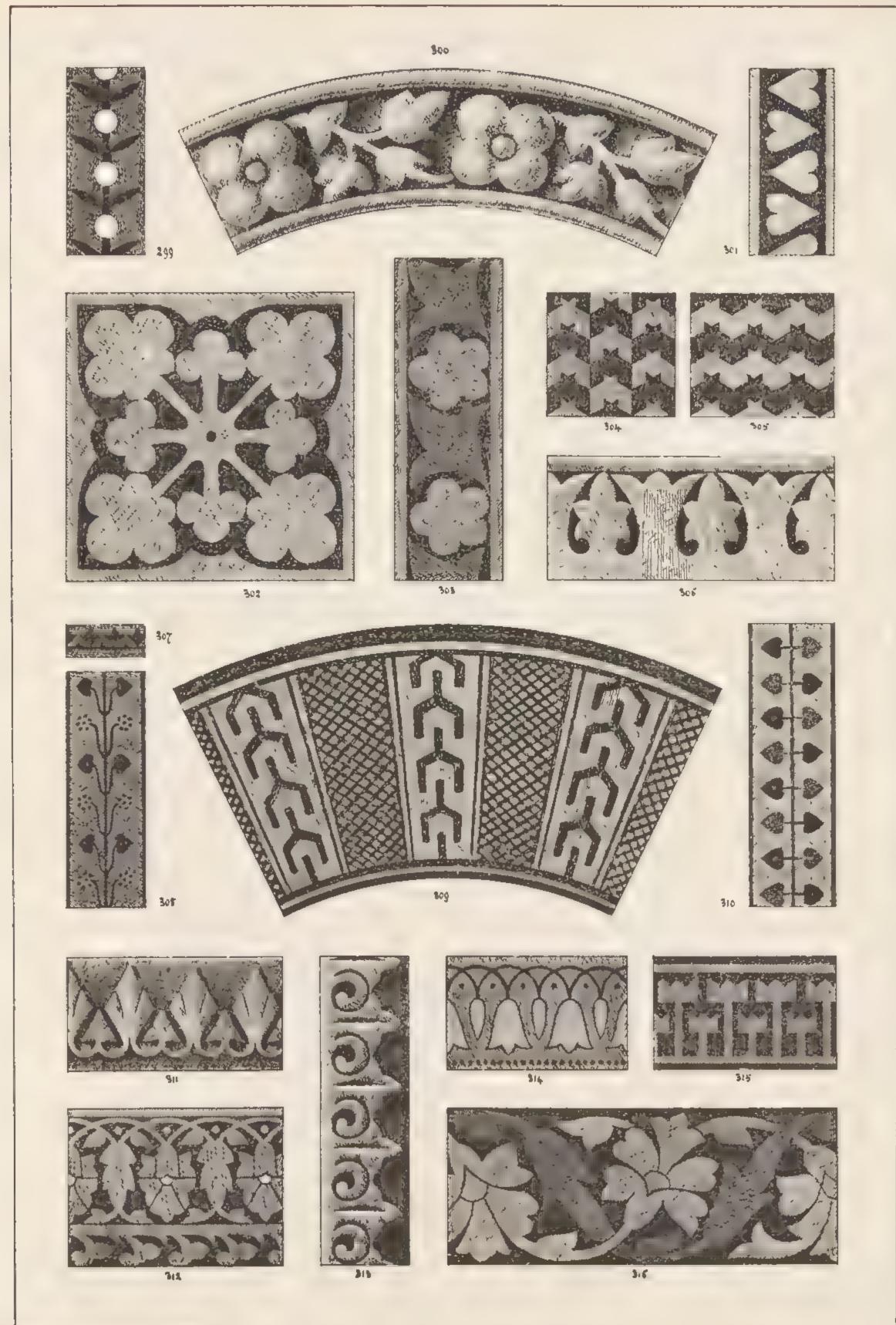




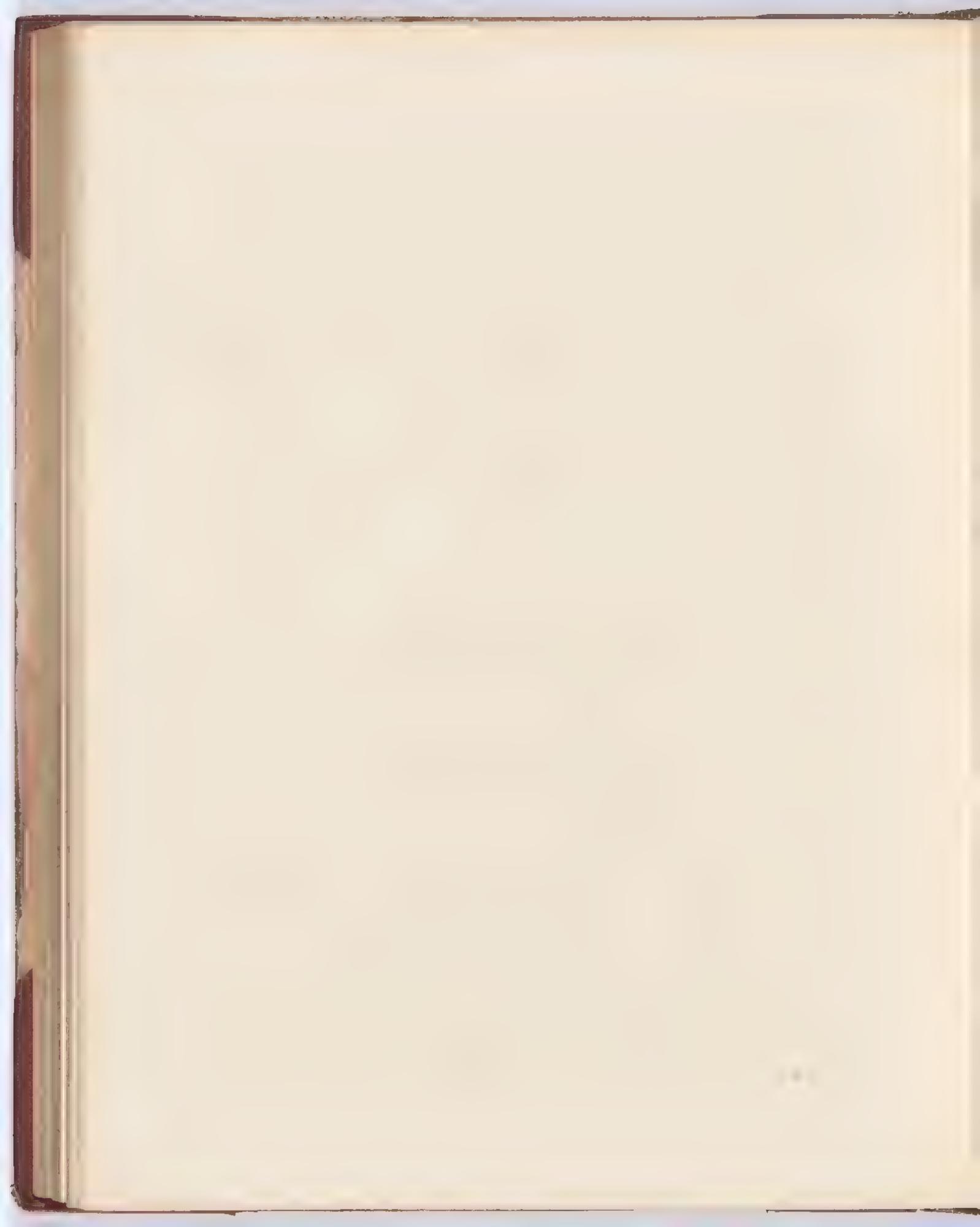


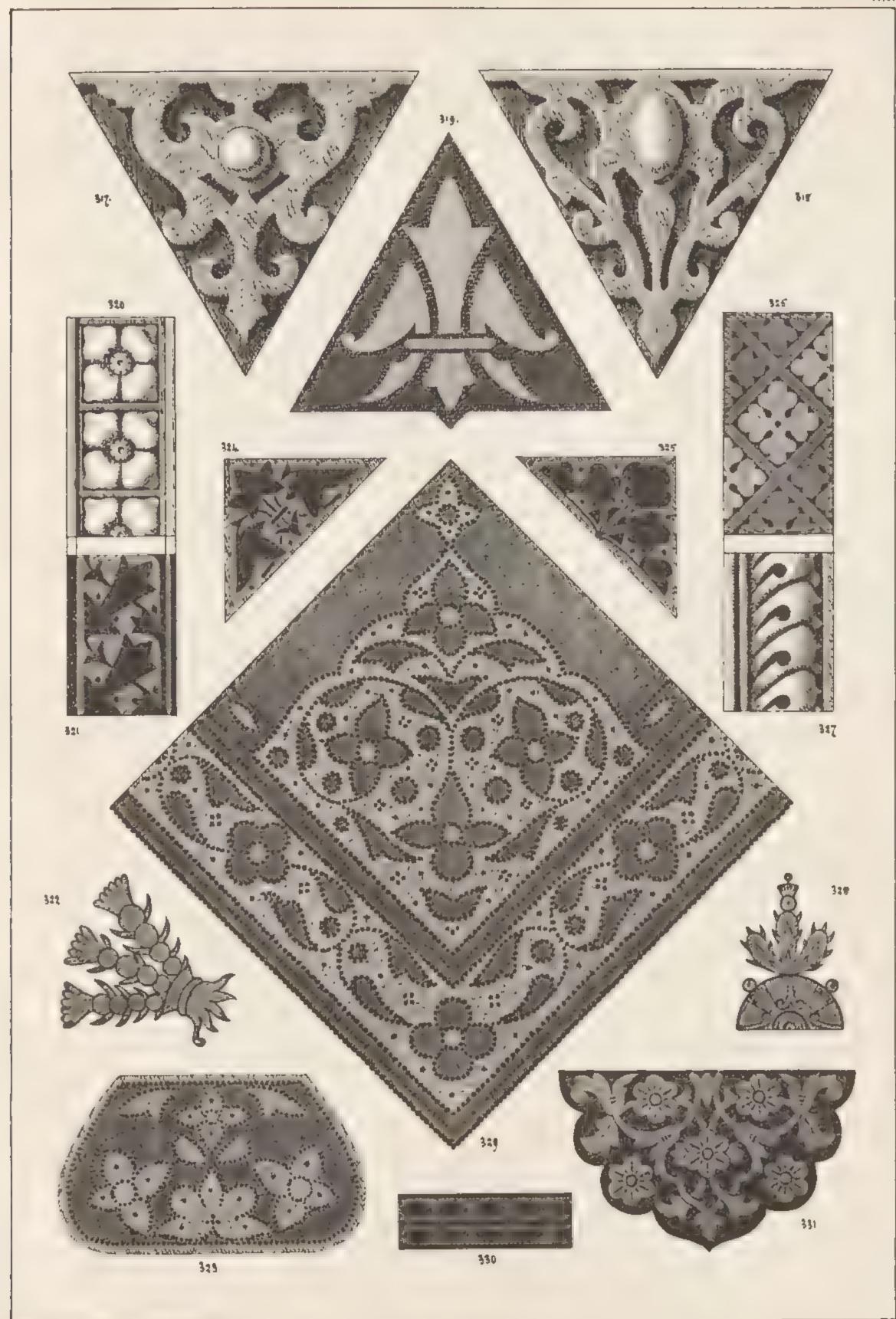




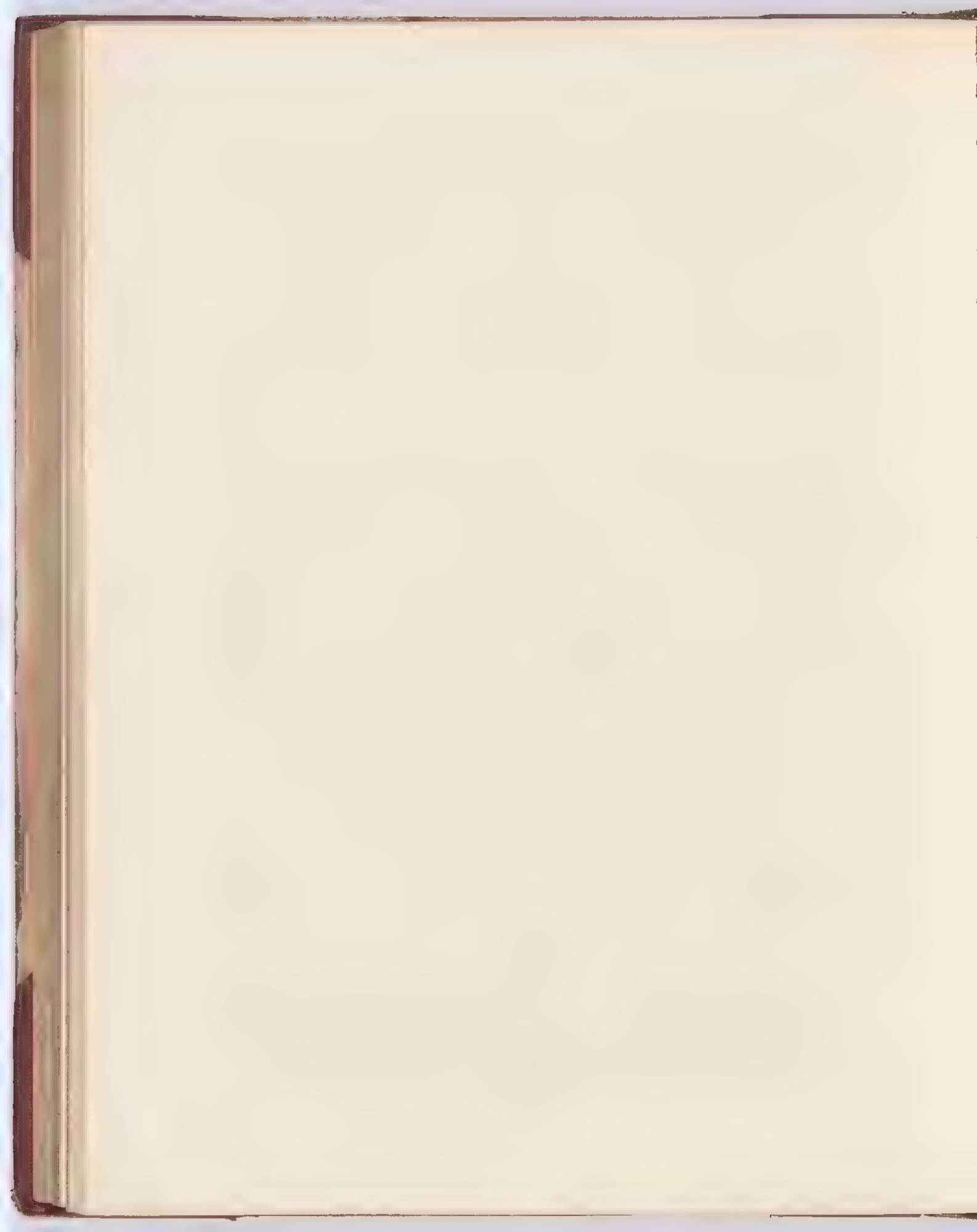


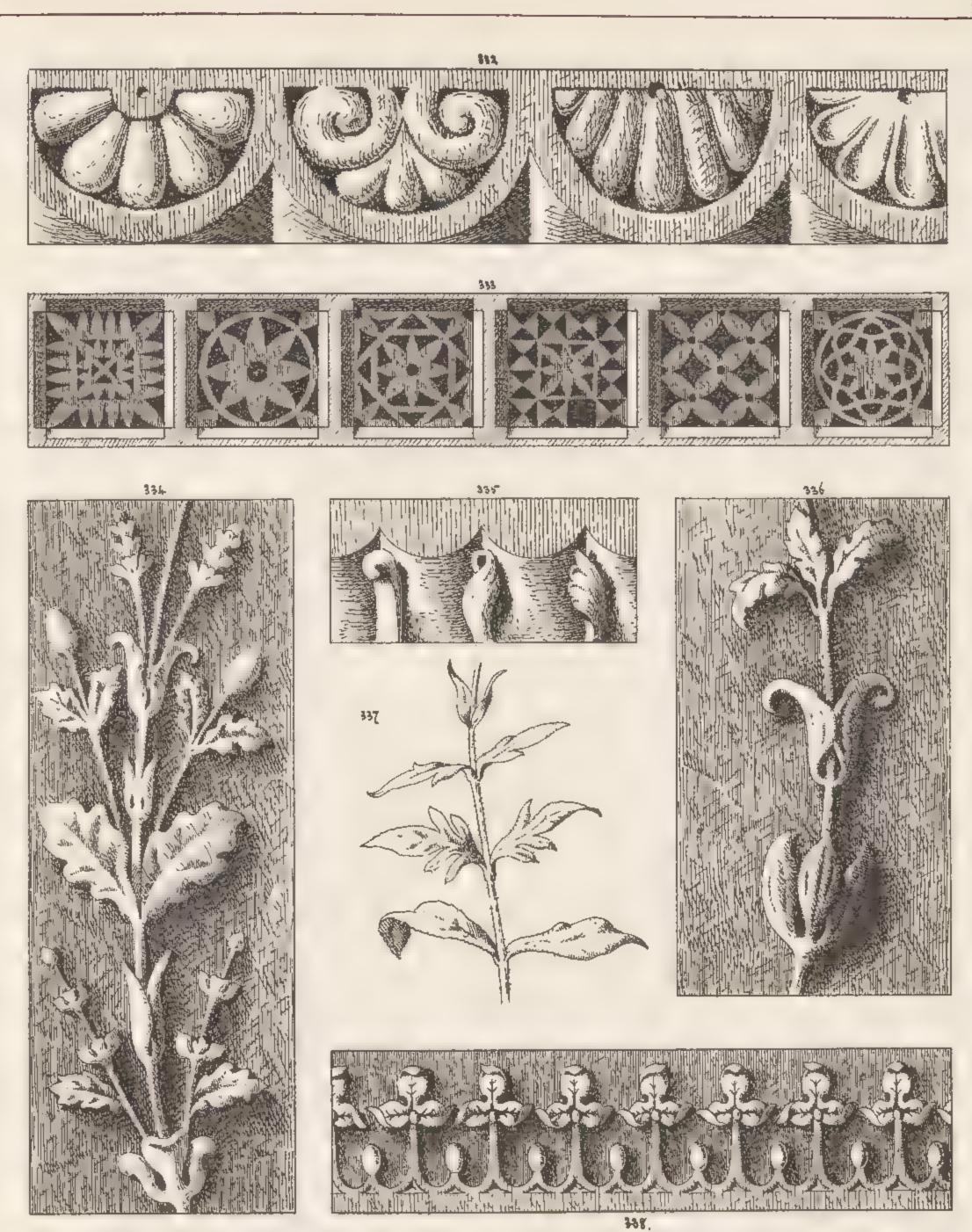
Mortemanika sou IA. Lath a shall were all all

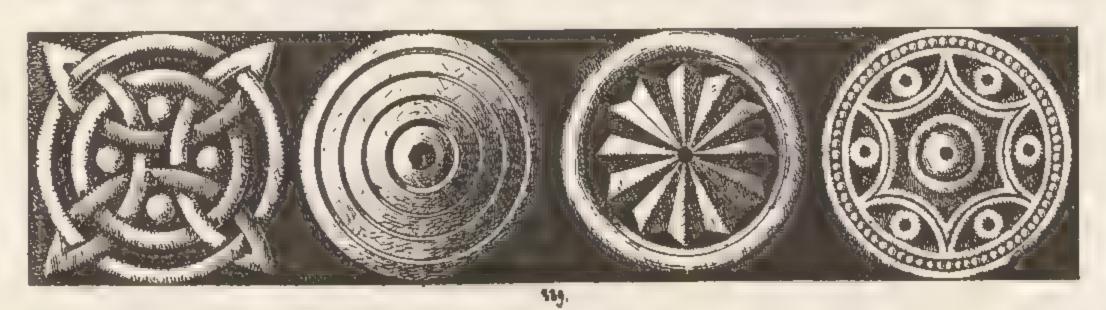




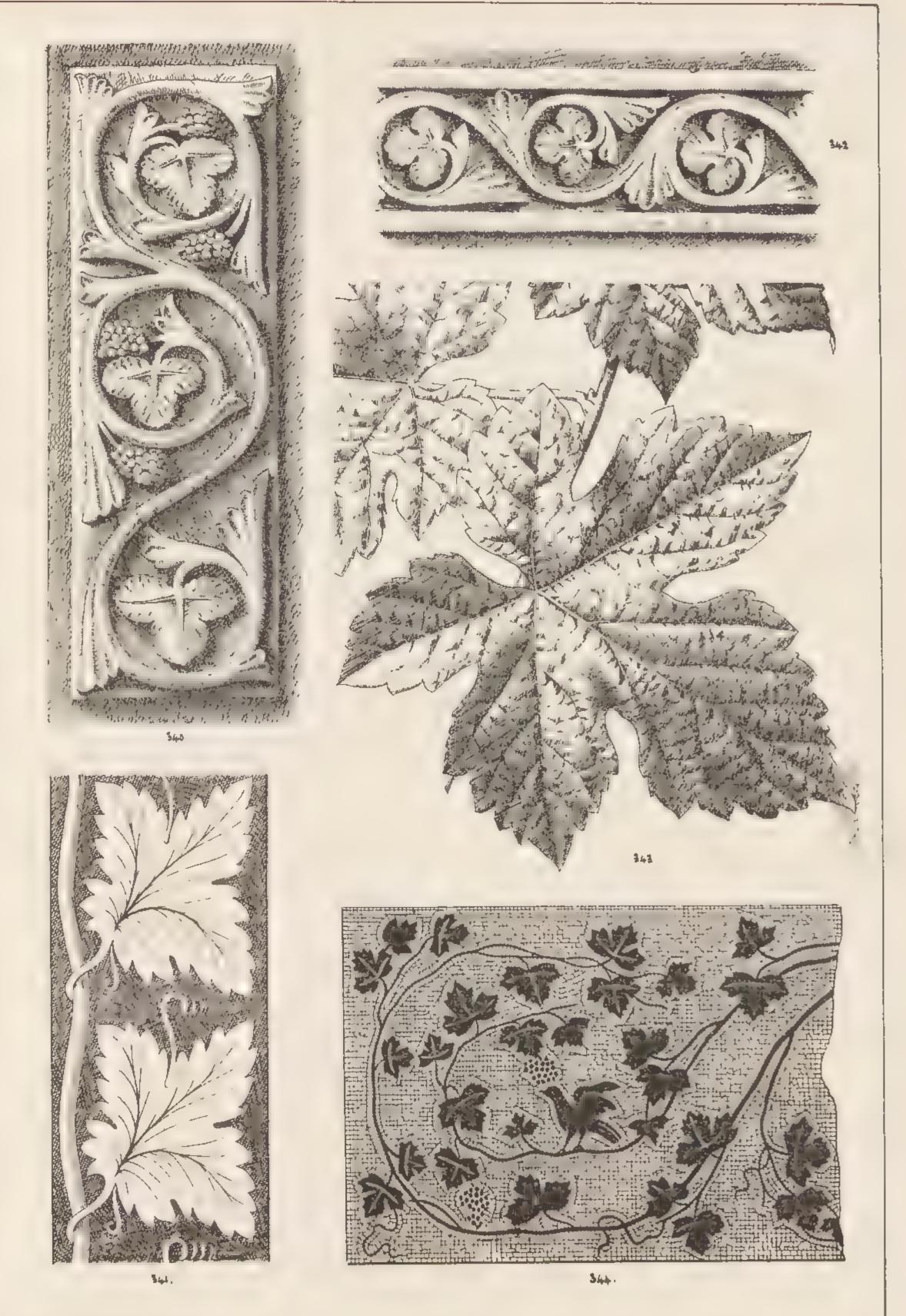
Mirman he is the many fully a

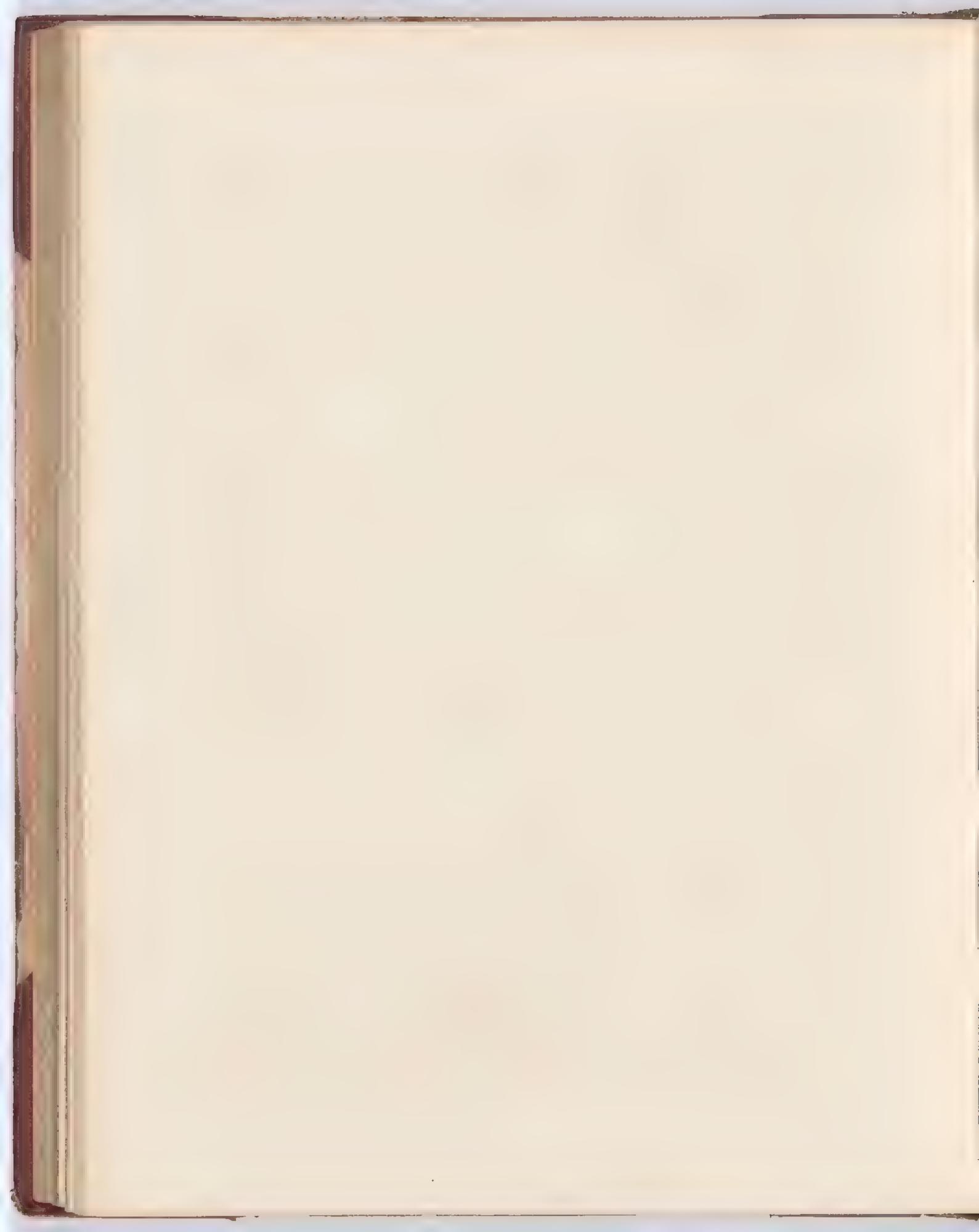


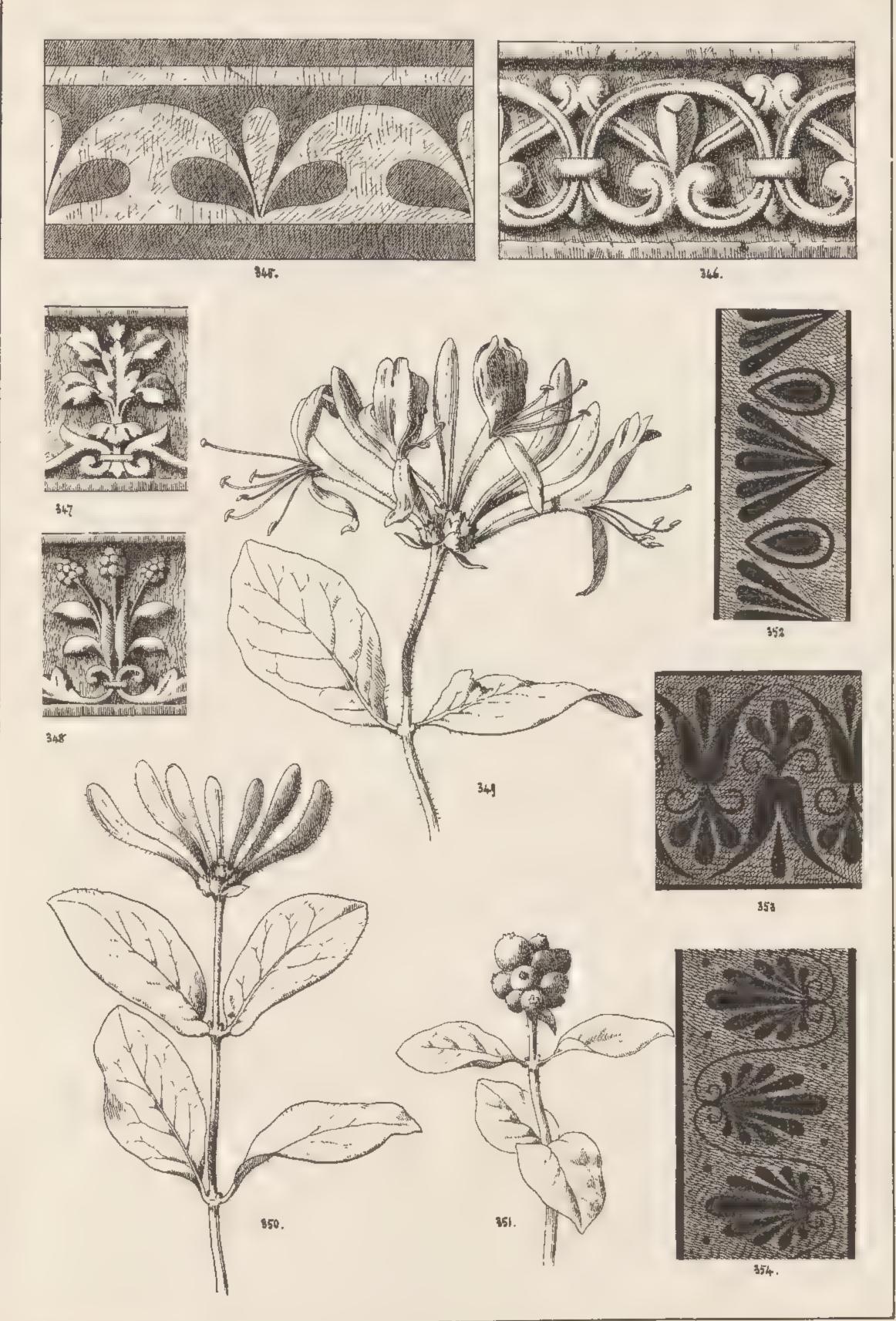


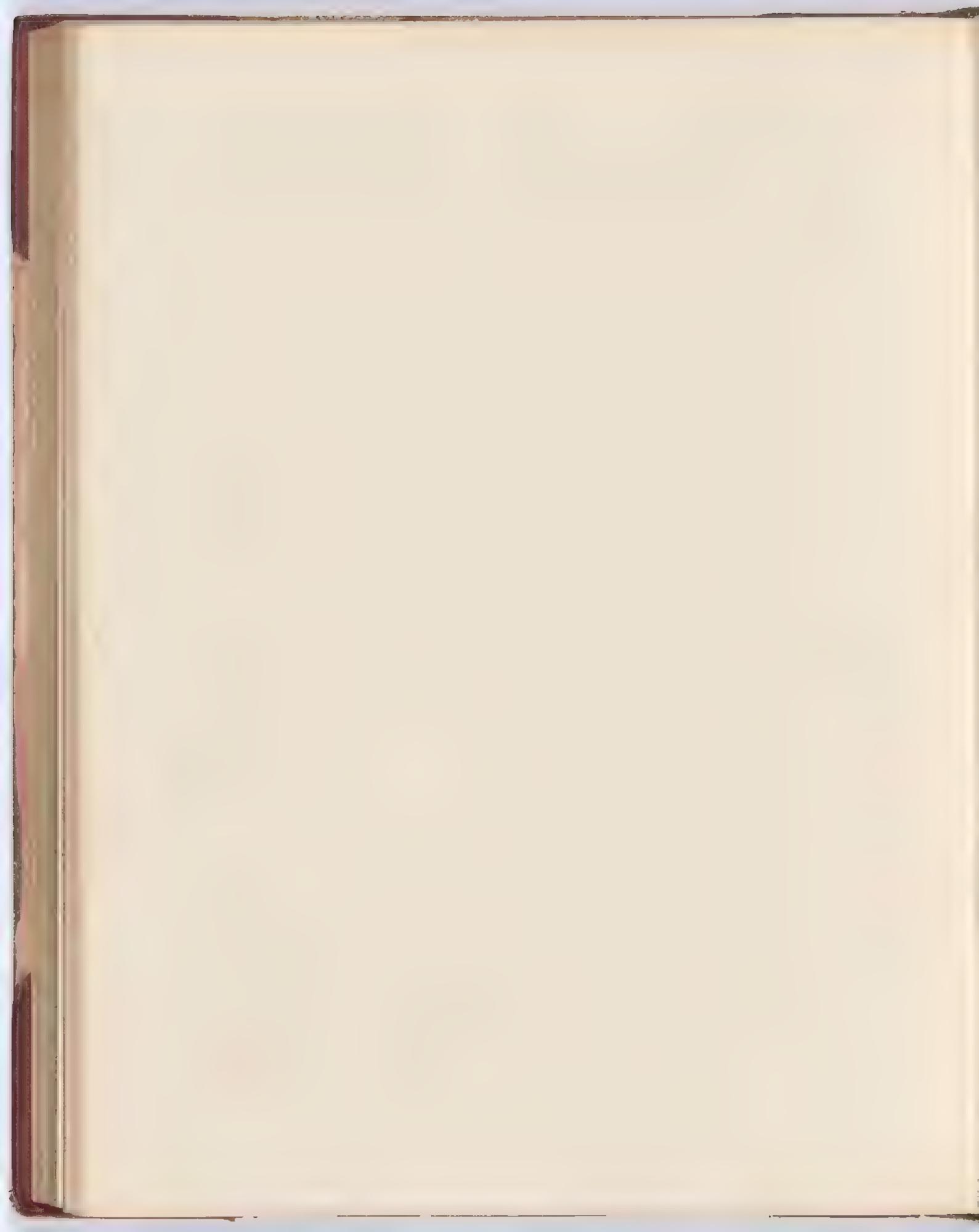


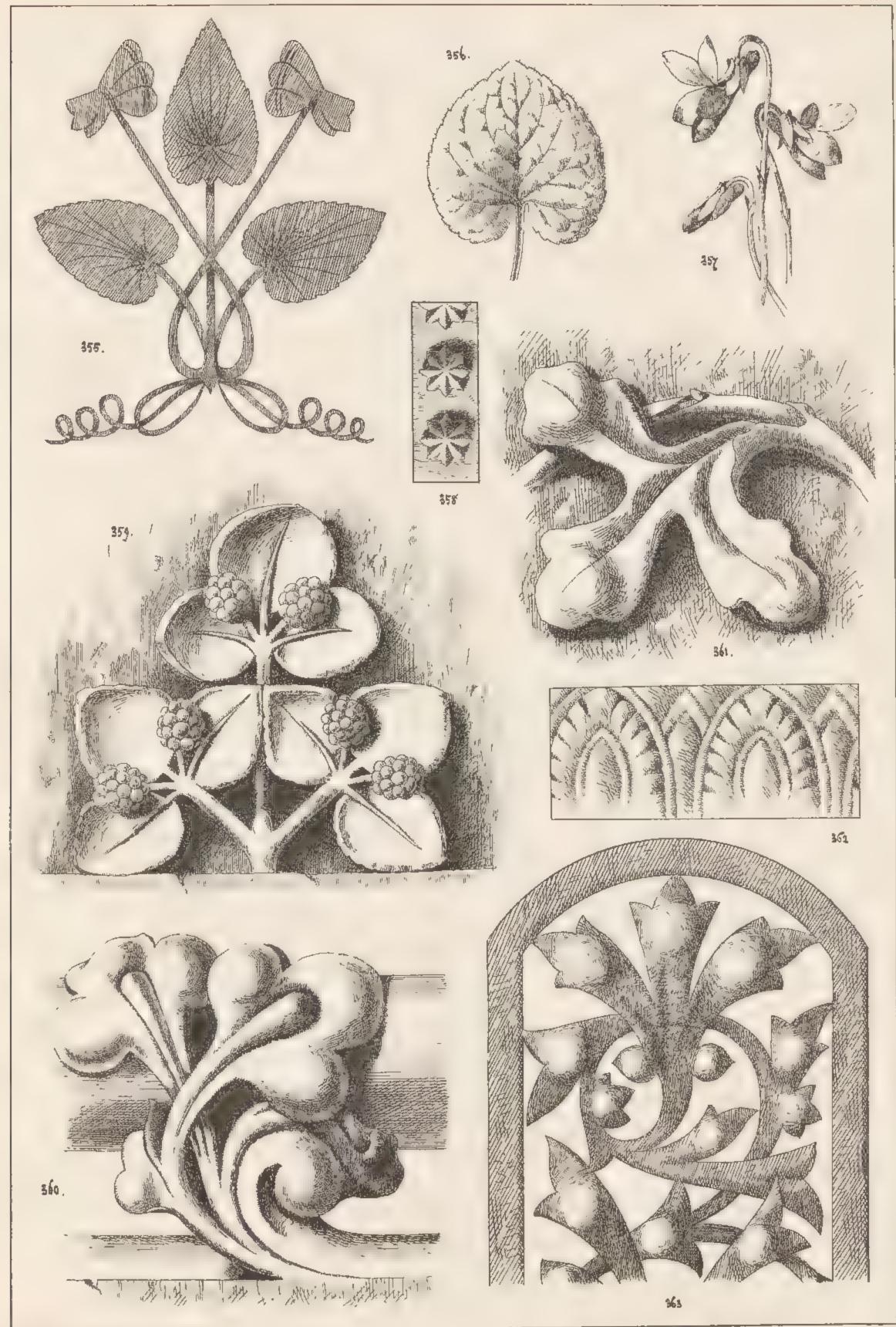




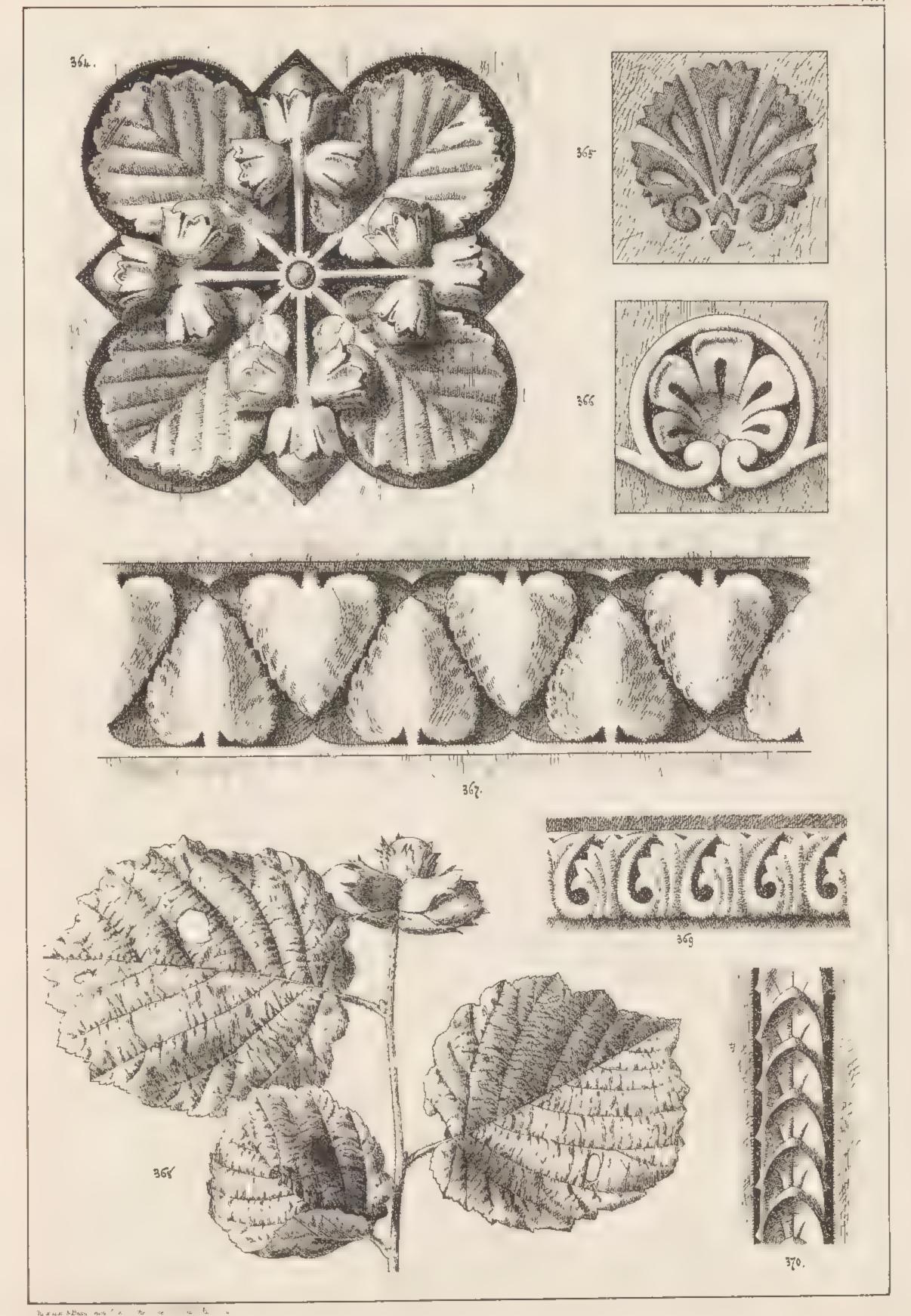


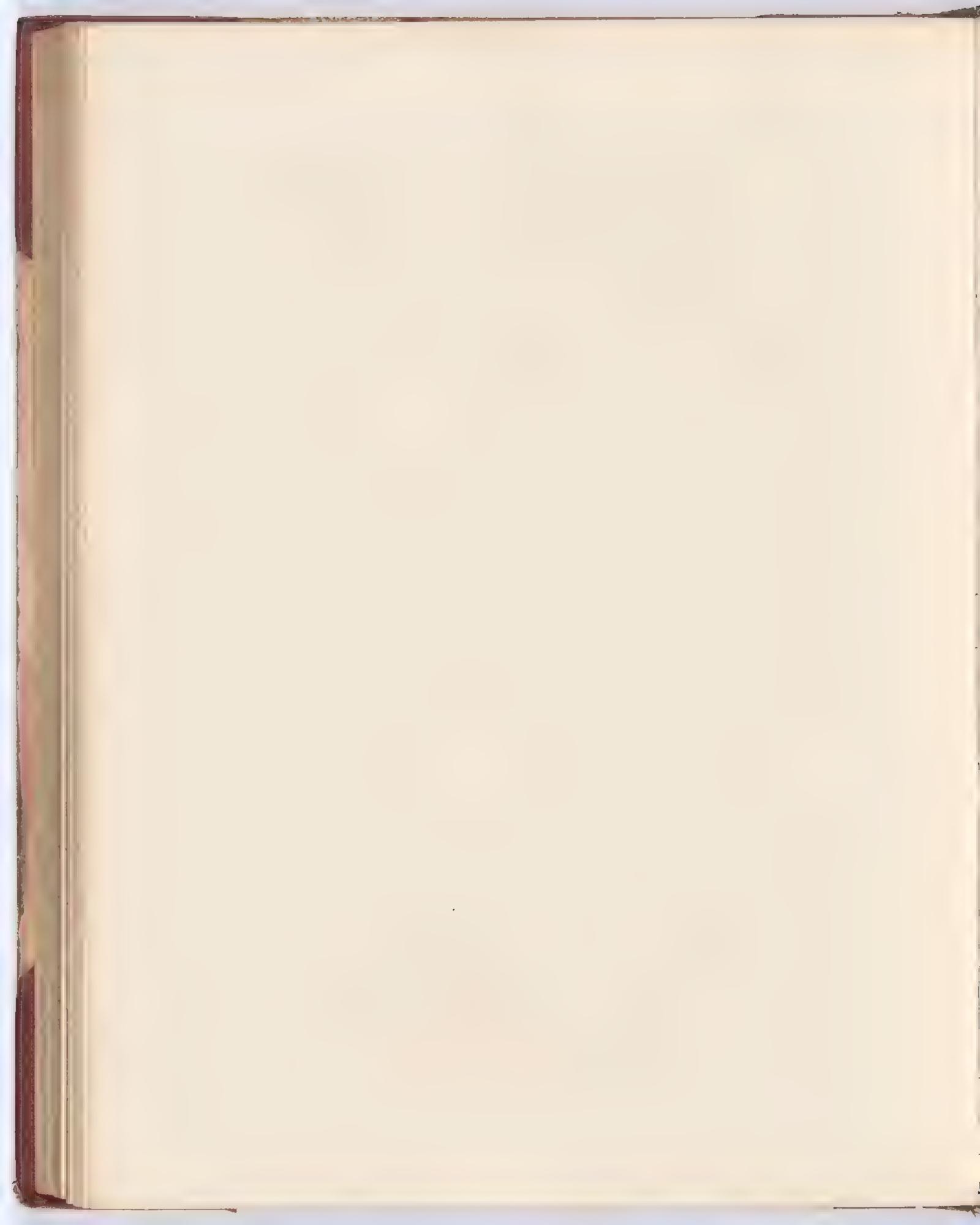


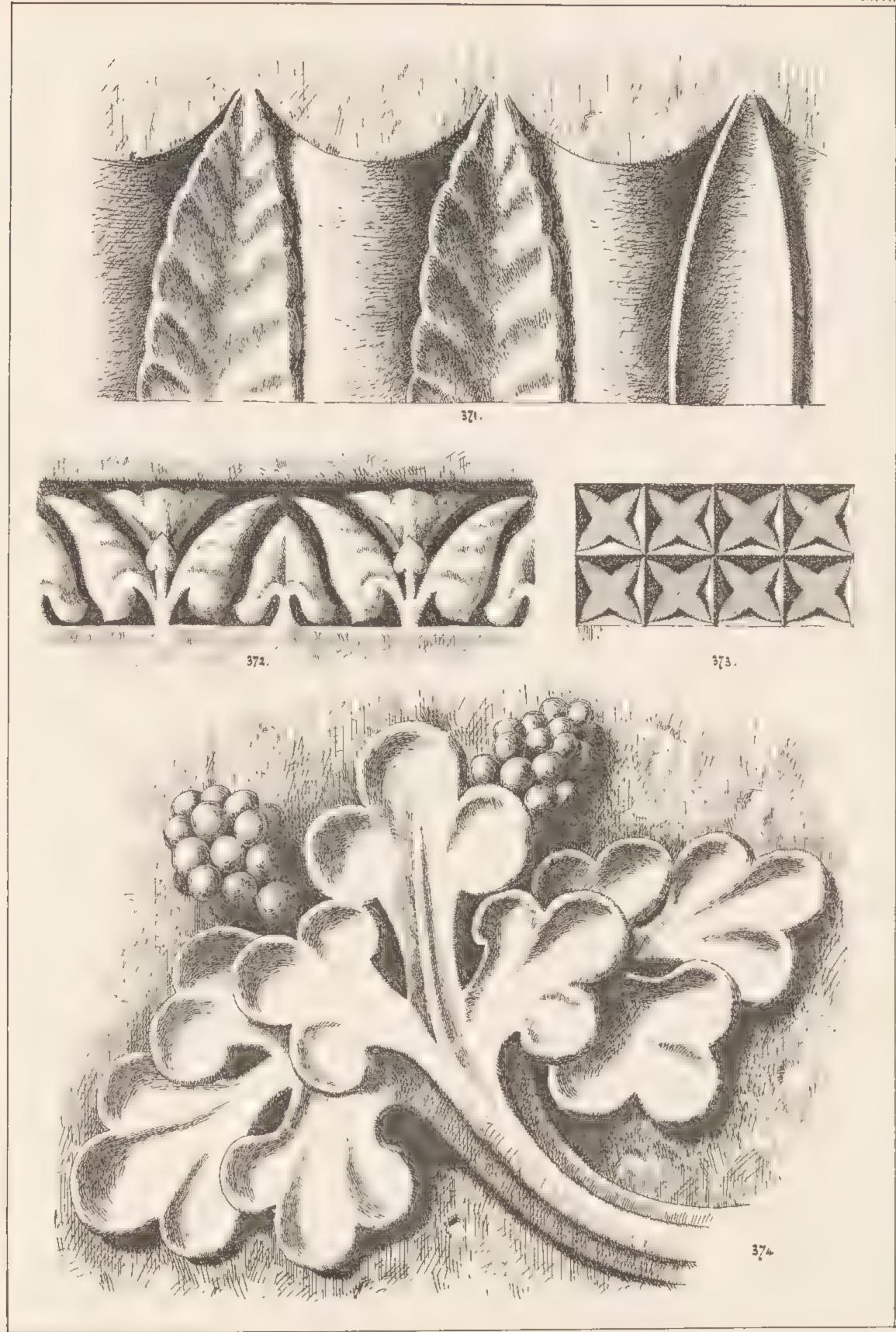






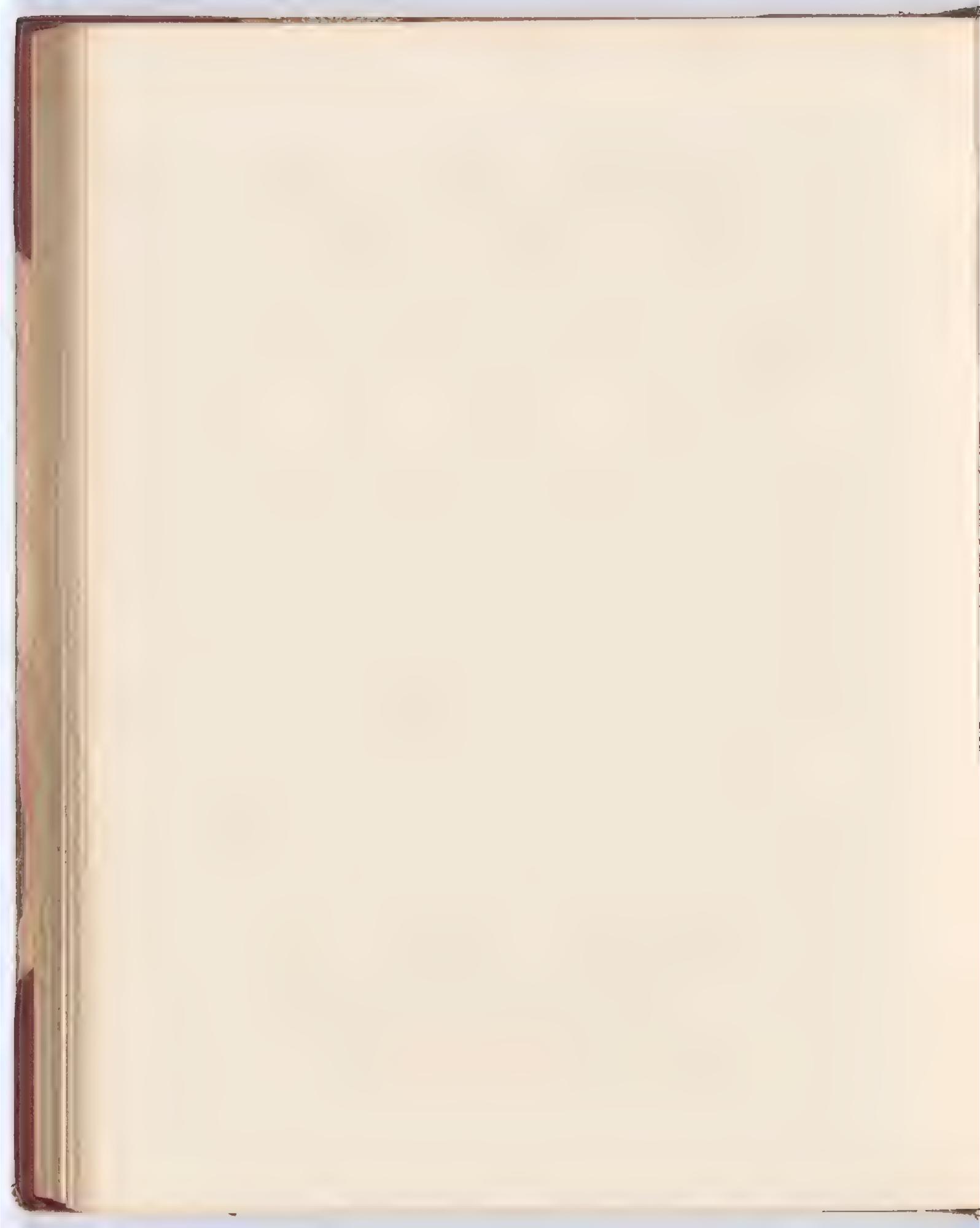


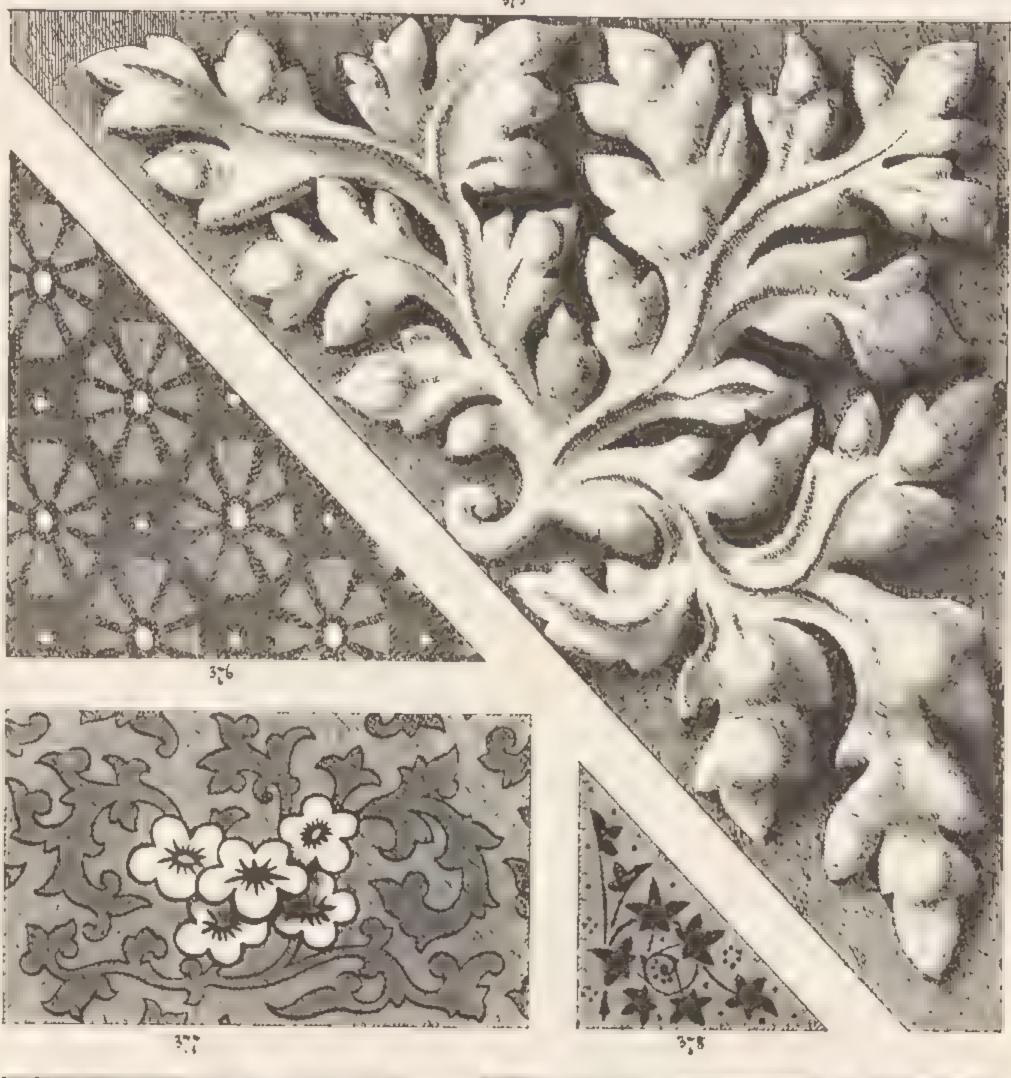




\* # FET TF F

ಕ ೭೬೪೬





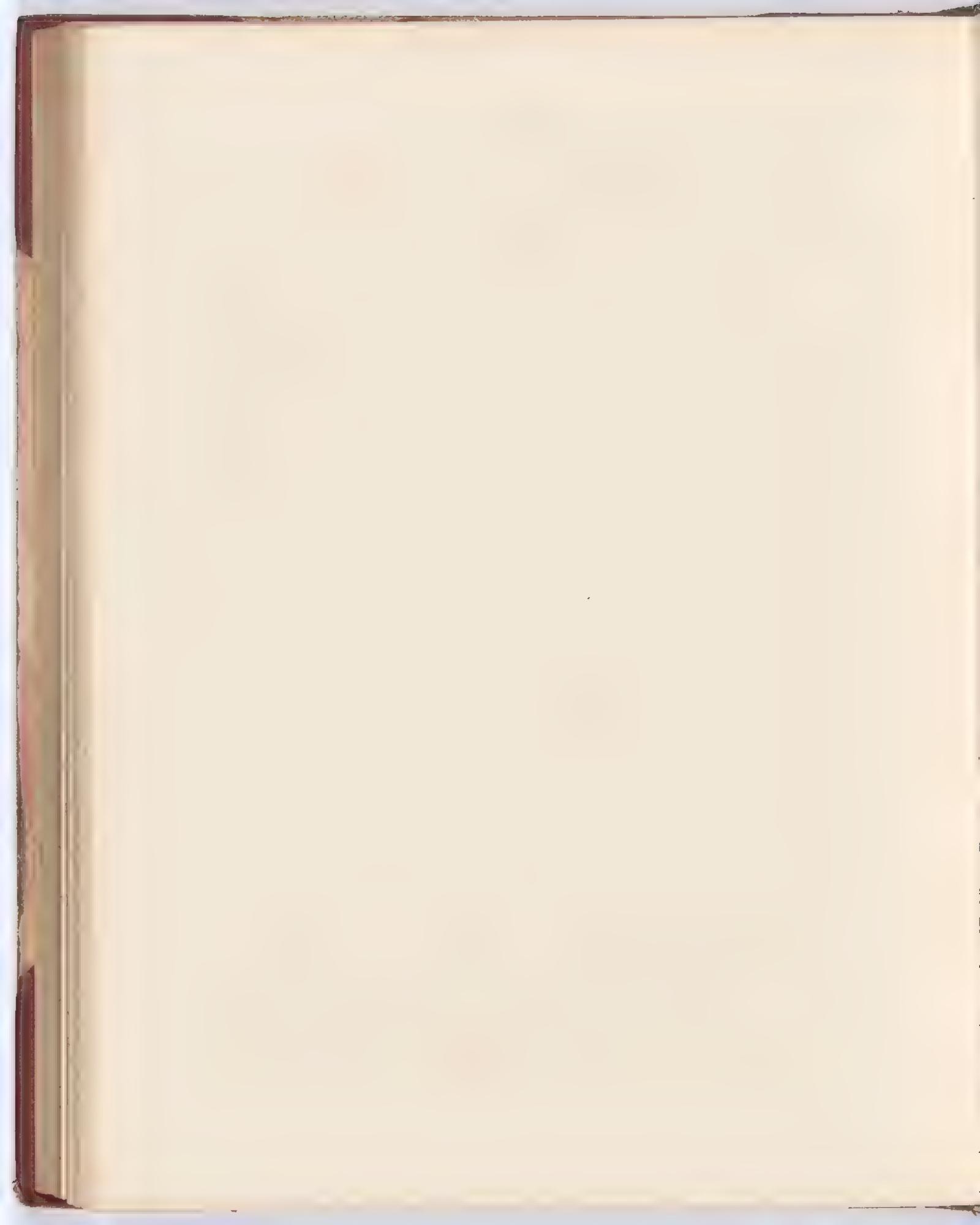


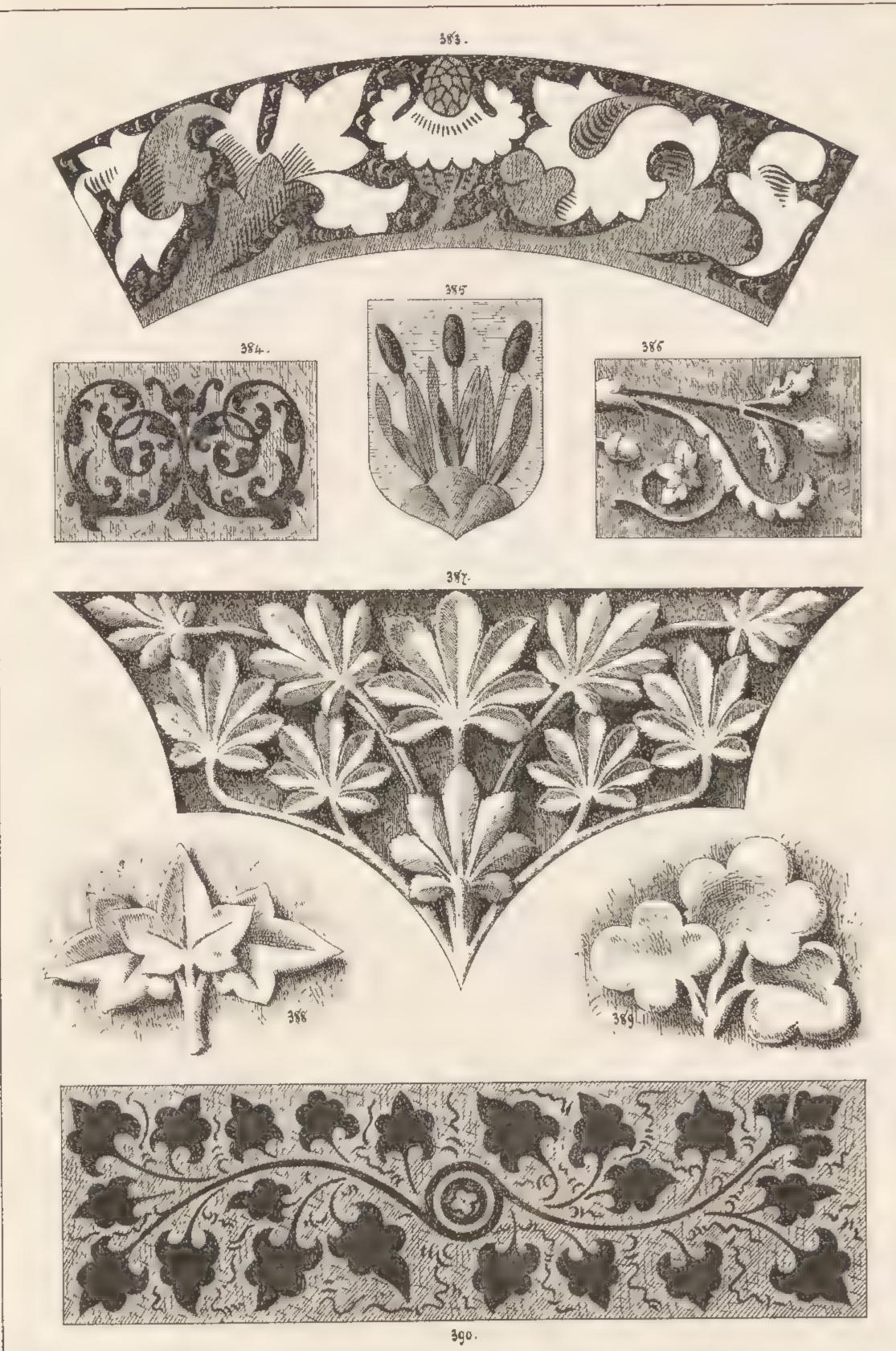


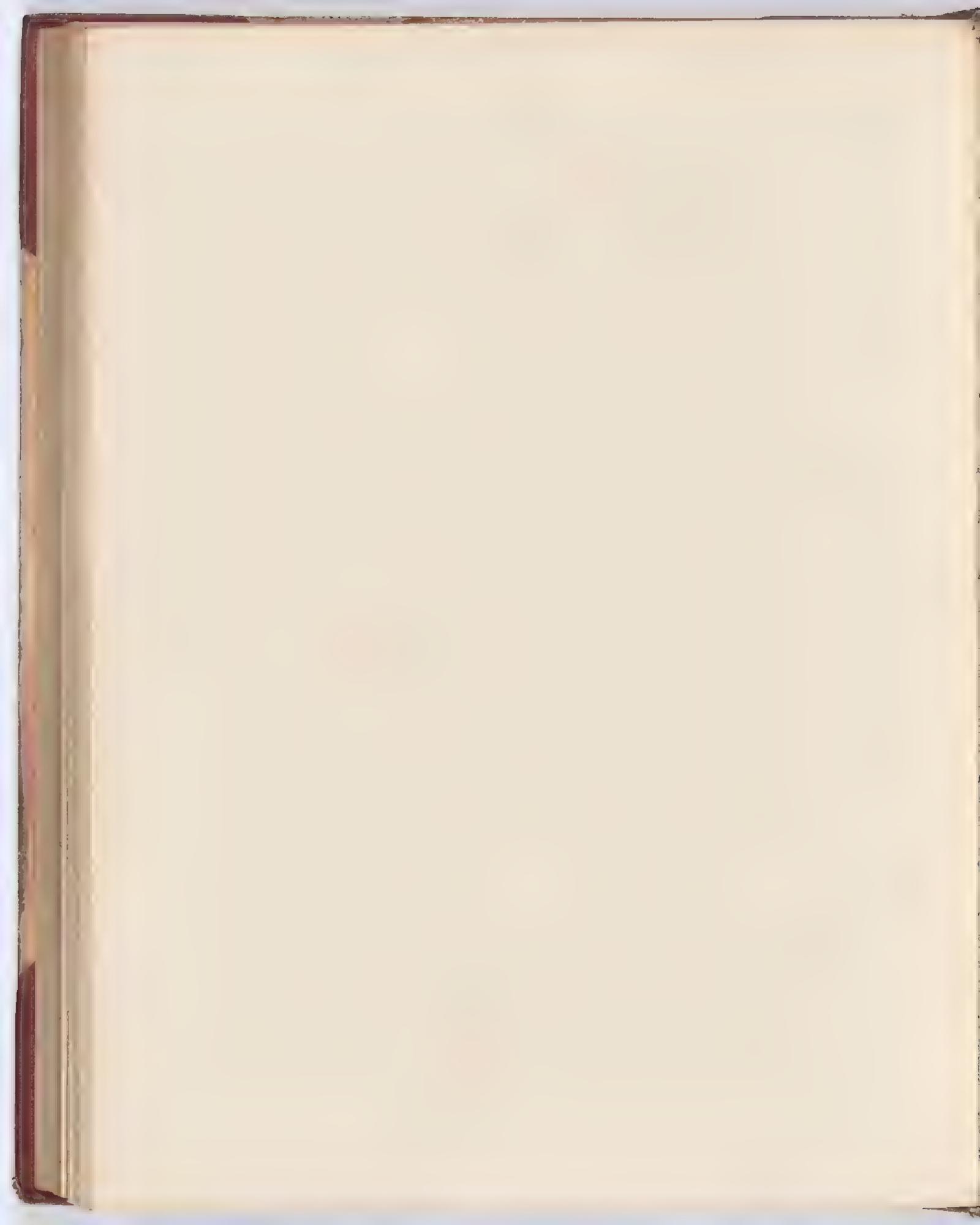


16. Frate lacks to the

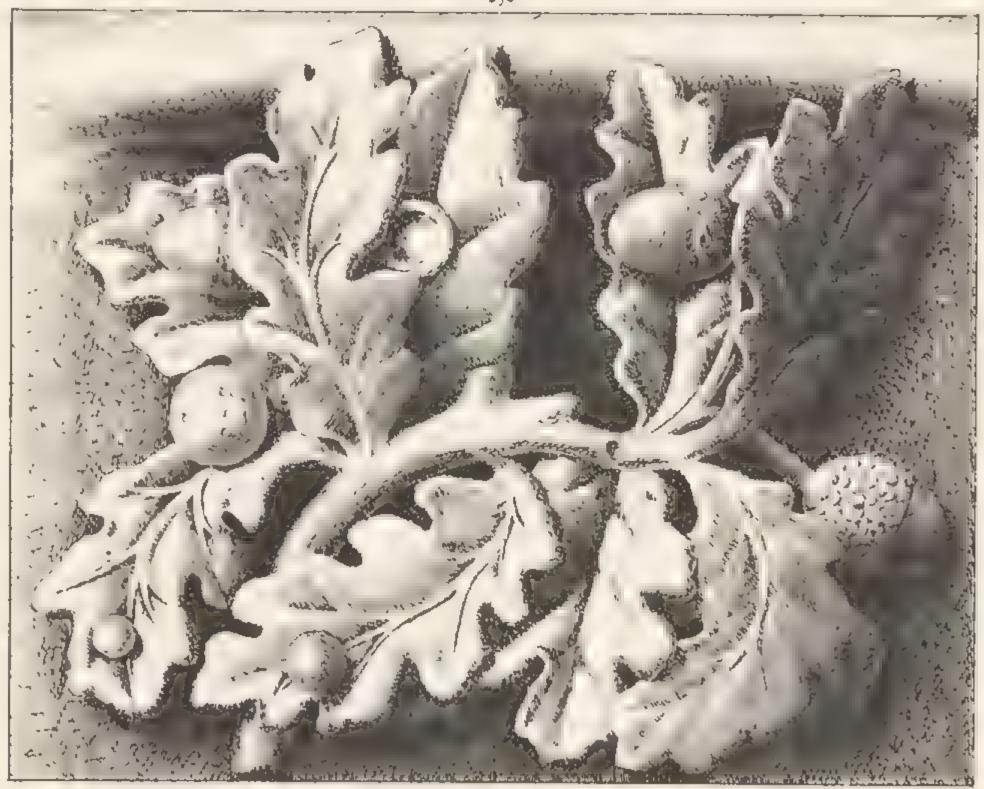


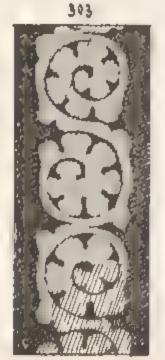






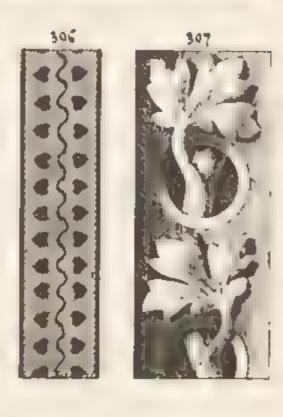


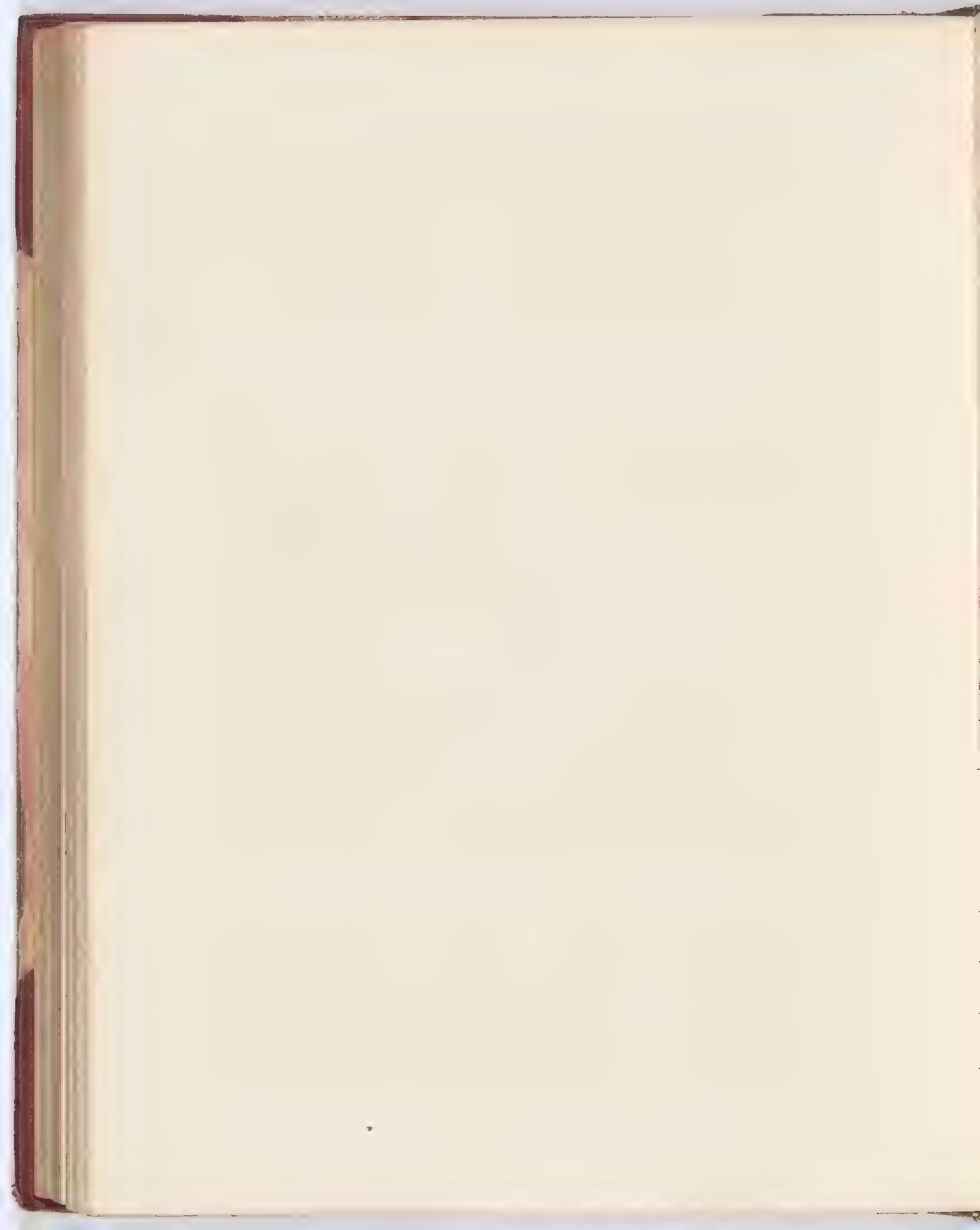


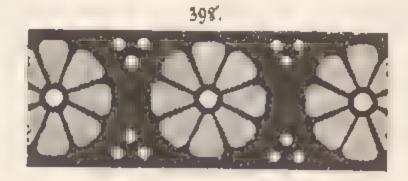




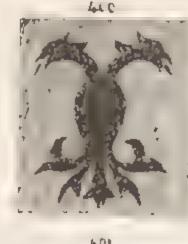






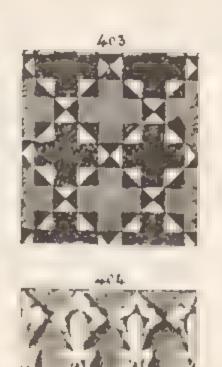






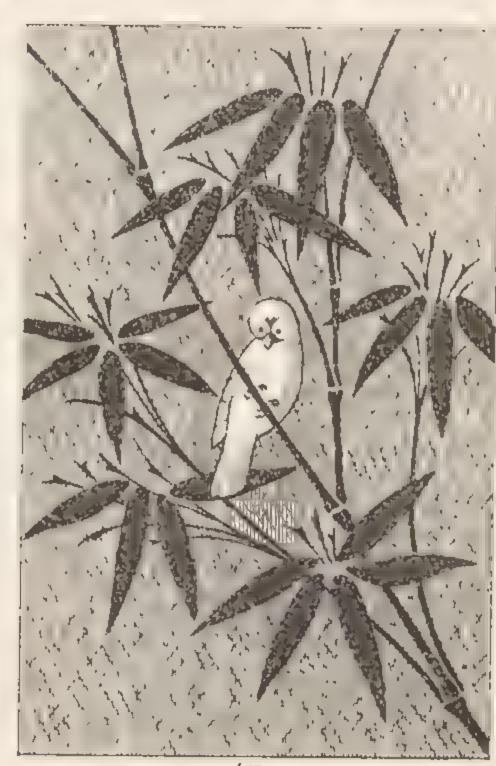




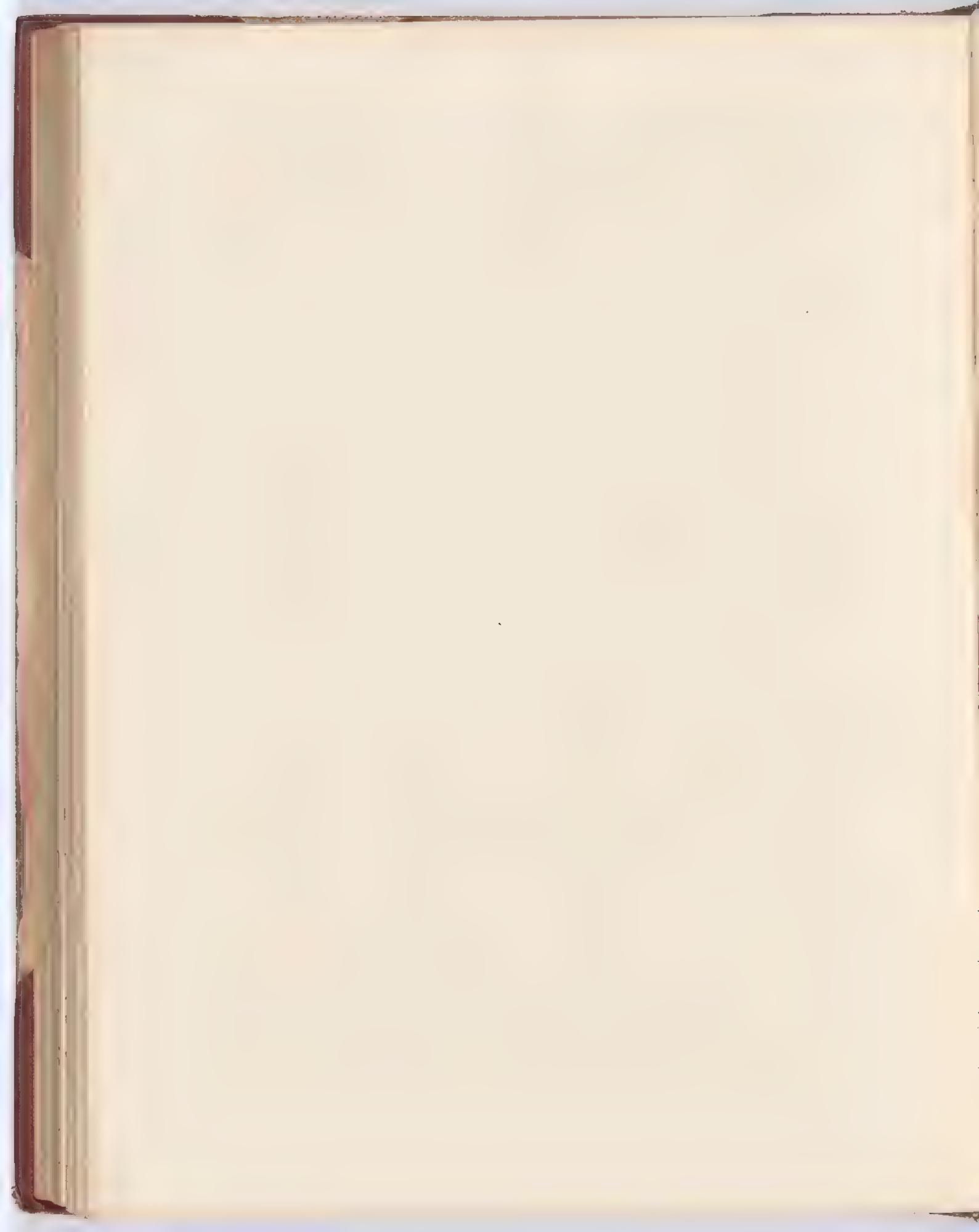






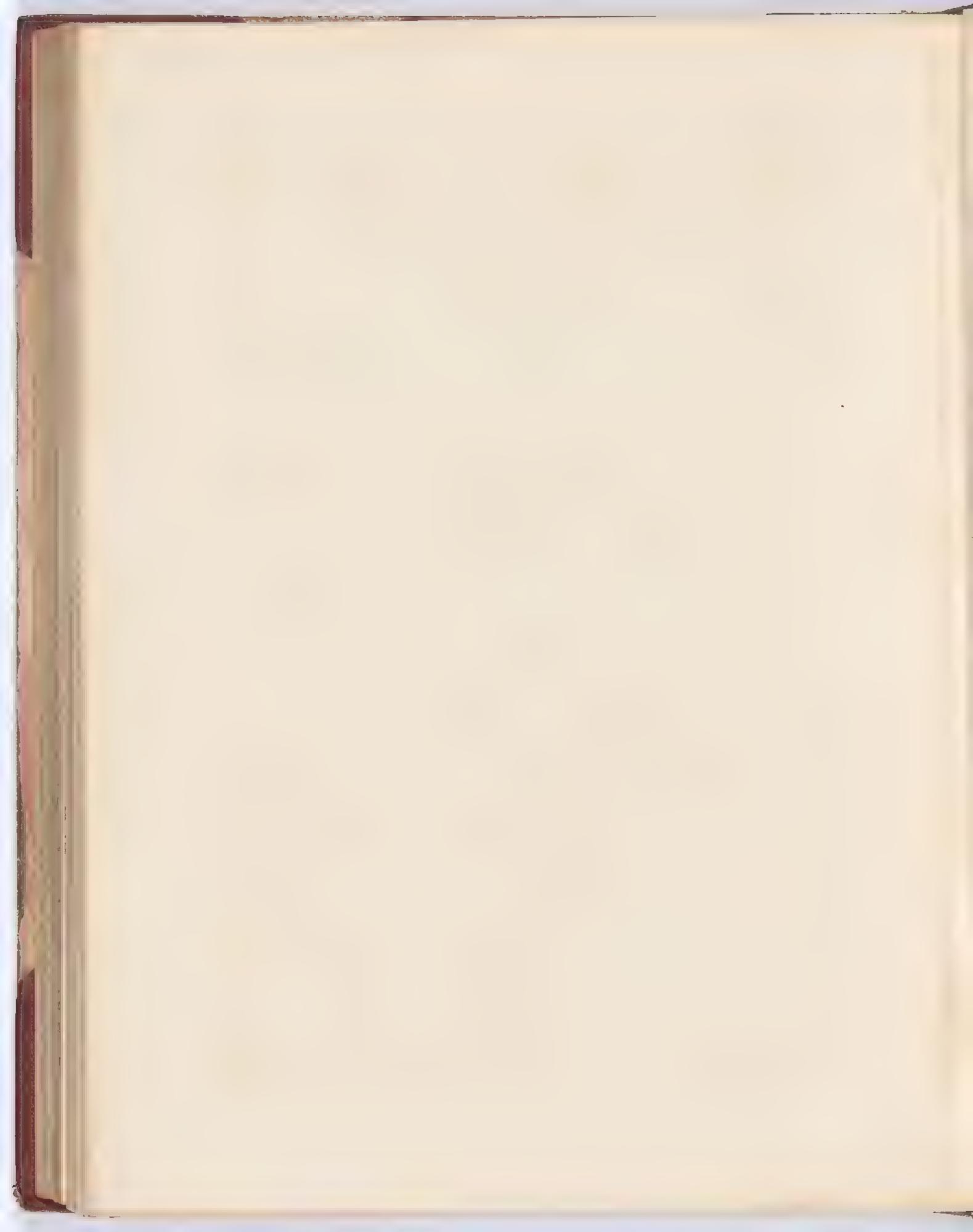


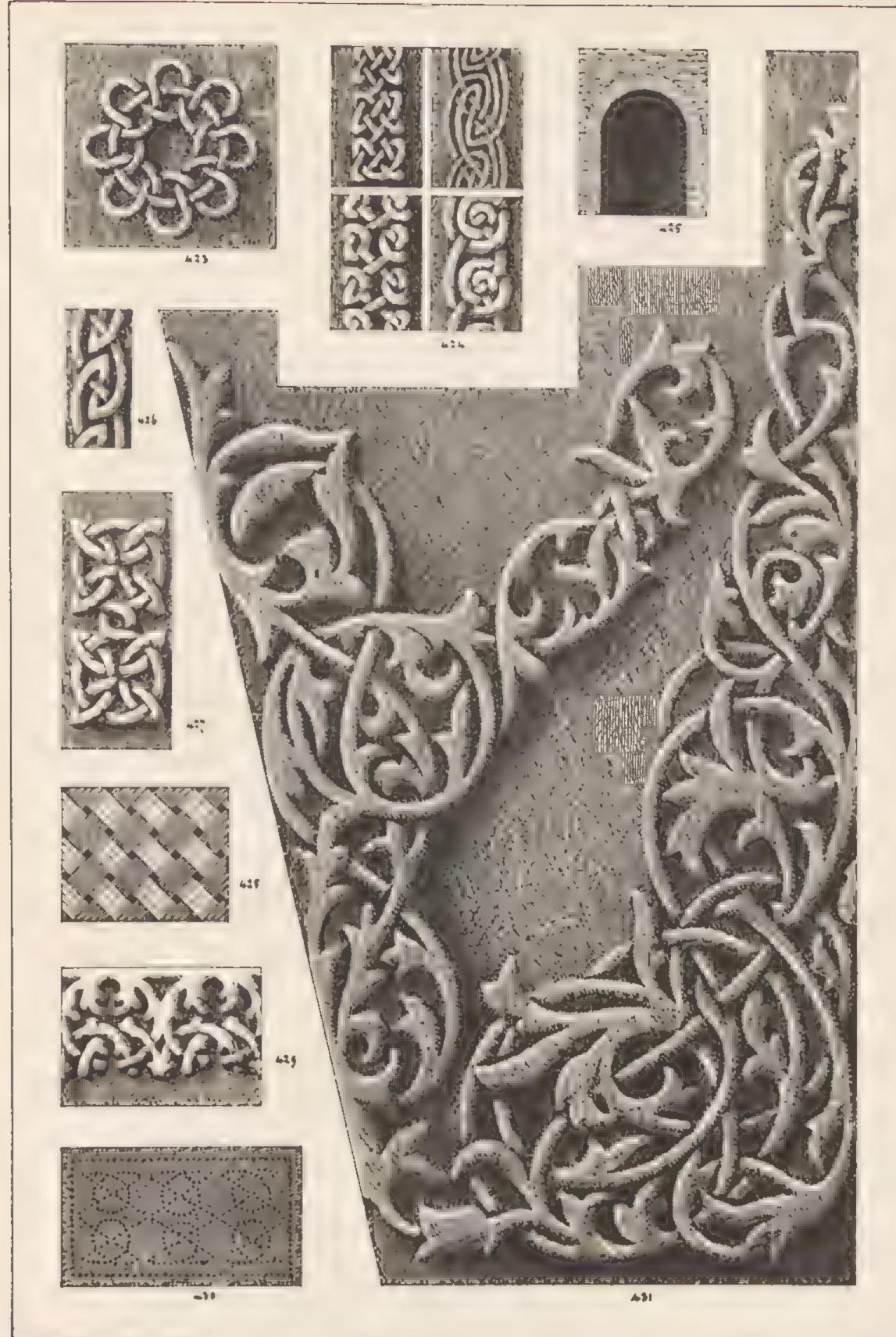
407





Volument Been Plow Lithe to the Great 336 Bigh Holborn





diament's a a

